Community Climate and Energy Action Plan

2011 Progress Report

September 2011

EUGENE

Climate&Energy Eugene action plan

Acknowledgements

Thank you to the many City of Eugene staff, and the following organizations and individuals who have contributed to this report:

BRING

Dan Armstrong

Eugene Tree Foundation

Eugene Tree Foundation, now Friends of Trees

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Food For Lane County

Good Company

Lane Council of Governments

Lane County

Lane Transit District

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Oregon Department of Energy

Oregon Department of Environmental Quality

Oregon Department of Land Conservation and Development

Oregon Department of Transportation

Oregon State University Extension Service – Lane County

Point2point Solutions

School Gardens of Lane County

The Resource Innovation Group

University of Oregon

Victory Gardens for All

Survey

The City of Eugene is interested in providing an annual report that is informative and easy to use. Please take a moment to provide your feedback and make suggestions for the next annual report.
http://www.surveymonkey.com/s/CEAP2011

Contents

Summary of Progress

In the 12 months since the Community Climate and Energy Action Plan was endorsed by the Eugene City Council, the majority of the recommendations contained in the plan have moved forward while about a quarter of actions remain unchanged. Some broad measures indicate Eugeneans are consuming less energy, less water, and less stuff.

Plan Background: Eugene's 2010 Community Climate and Energy Action Plan

In 2008, in response to increasing concern about global climate change and the potential for volatile and rising fuel prices, the Eugene Sustainability Commission obtained support from the Eugene City Council for creation of a climate and energy plan for Eugene.

In 2009 and 2010 Eugene's Community Climate and Energy Action Plan was developed with input from a wide variety of community partners including 500 participants at public forums, an 11-member advisory team, and 75 topic specialists comprising local business owners, non-profits, utilities, partner agencies, and state officials.

In September 2010, Eugene's first Community Climate and Energy Action Plan was unanimously endorsed by Eugene's City Council.

The Community Climate and Energy Action Plan contain three separate but overlapping goals:

1. Reduce community-wide greenhouse gas emissions 10 percent below 1990 levels by 2020.

2. Reduce community-wide fossil fuel use 50 percent by 2030.

3. Identify strategies that will help the community adapt to a changing climate and increasing fossil fuel prices.

The plan is organized into six Action Areas:

Buildings and Energy considers energy used in residential, commercial, and industrial buildings in Eugene.

Food and Agriculture includes everything related to our food production, delivery, distribution, and waste disposal.

Land Use and Transportation considers energy used for transporting people and goods as well as the impact that land use has on transportation systems and decisions.

Consumption and Waste looks at everything in the lifecycle of consumer goods from extraction of raw materials to manufacturing, packaging, distribution, product use and finally, disposal.

Health and Social Services addresses mental and physical impacts on residents brought about by climate change and rising fuel prices.

Urban Natural Resources considers the soil, air, water, plants, and animals of our city.

Readers can link to the complete Community Climate and Energy Action Plan online at www.eugene-or.gov/sustainability

Purpose of Progress Report

This first annual progress report is intended to update elected officials, community partners, residents of Eugene, and City of Eugene staff on the progress made toward Eugene's Climate and Energy Action goals from September 2010 to September 2011.

The measures section of this report contains an overall assessment of community energy use based on a targeted set of indicators that will be updated annually. A more comprehensive community greenhouse gas inventory will be conducted every three to five years along with a refinement of plan goals, strategies, and language.

In addition to highlights and broad indicators of energy use, this report contains a brief description of progress for each action within the plan. Additional information can be found by contacting the resources described in this report or by contacting Matt McRae, City of Eugene Climate and Energy Analyst, at 541-682-5649 or matt.a.mcrae@ci.eugene.or.us.

2010/2011 Highlights

Our community has accomplished many things over the past 12 months that move us toward the goals outlined in the Community Climate and Energy Action Plan. Below are some highlights that demonstrate the changes occurring throughout the city. These accomplishments also demonstrate the collaborations that are necessary to make Eugene more energy-wise and resilient.

Envision Eugene

Over the past year the City of Eugene has been involved in a comprehensive land use planning effort called Envision Eugene (www.envisioneugene.org). One of the "pillars" or foundations of the draft proposal includes planning for climate change and energy uncertainty. The proposal contains multiple strategies that will reduce greenhouse gas emissions and fuel consumption and improve community resilience, including:

- Meet all of the 20-year commercial land needs (office and retail) within the existing urban growth boundary (UGB).
- Plan for growth so that an increasing proportion of residents live in 20-Minute Neighborhoods where residents can meet most of their daily needs within walking distance from their homes. This strategy is intended to reduce the need for, and reliance on, motorized forms of transportation.
- Make energy efficiency, in buildings and in vehicles, the first line of action in reducing energy dependence and greenhouse gas emissions.
- Reduce physical and economic risks to people and property arising from climate change and energy price uncertainty.
- And many more. Additional details including a complete draft proposal can be found at: www.envisioneugene.org

Envision Eugene workshop

20-Minute Neighborhoods

Objective 10 of the Community Climate and Energy Plan sets a goal to have 90 percent of Eugene residents living in 20-Minute Neighborhoods by 2030. In the early half of 2011, the City of Eugene completed a 20-minute neighborhoods assessment that will help citizens, planners, and policymakers prioritize actions to improve walkability and access to services throughout Eugene.

These neighborhoods are an important strategy for reducing reliance on the automobile, lowering transportation costs, and reducing our community's greenhouse gas emissions. In addition, walkable neighborhoods improve public health, help residents save money, and improve access to daily needs. Complete details of Eugene's 20-minute neighborhoods assessment can be found online at www.eugene-or.gov/twentyminuteneighborhood

Pedestrian Bicycle Master Plan

The creation of a Pedestrian and Bicycle Master Plan is part of Objective 13 in the Climate and Energy Action Plan. A draft Pedestrian and Bicycle Master Plan will be available for public review in fall of 2011 and will contain a list of recommended improvements in every neighborhood of the city. The draft plan contains a proposed 20-year project list, recommended policy changes, and potential funding sources, and will be available online at http://www.eugenetsp.org/

Climate Communication Strategy

In late spring 2011, the City of Eugene began development of a public outreach campaign centered on climate change. The first part of this campaign will focus on the relationship between consumption and greenhouse gas emissions.

Commercial Food Composting

In spring 2011, the Oregon Department of Environmental Quality approved permits for two composting businesses in Eugene to begin composting food waste from Eugene restaurants and businesses. The City of Eugene is sponsoring commercial food waste collection that is expected to begin in the fall of 2011. By composting large amounts of food waste, this action will reduce the amount of methane, a potent greenhouse gas, being released from landfills.

Energy Performance Score

Energy Performance Scores help a buyer know how much energy a building uses before making a purchase. It provides a measure of energy use for a building very much like a miles per gallon rating does for a car. EWEB now offers an Energy Performance Score (EPS) for new

Photo courtesy of Twobee

construction and EWEB plans to pilot the Energy Trust of Oregon's model for existing buildings as soon as it is available. The City of Eugene Waste Prevention and Green Building Program is also assessing the possibility of including an Energy Performance Score in its Green Building Incentive program.

University Of Oregon Building Standards

In August 2011, the University of Oregon committed to a unique approach to reducing energy use in buildings. Beginning immediately, the University will set a cap on energy use so that all new development built on the 295-acre campus will result in a net-zero increase in energy use. Energy demands from any new buildings will be offset by saving the equivalent amount of energy through improvements in existing buildings. The new policy will apply to new construction built on the 295-acre campus. New projects will be required to meet LEED Gold certification standards and must produce 35 percent greater energy savings than the state's building code requires.

Bring Re:think Program

Since 2009, BRING recycling has operated a RE:think business program that has helped more than 67 individual businesses cut energy use, conserve water, reduce waste, improve stormwater quality, and "green up" their purchasing practices. Over the last year, the lighting and refrigeration upgrades alone have resulted in an estimated savings of 120,000 KWH per year, equivalent to the electricity used to operate six average homes for one year. The RE:think business program provides business owners with on-the-ground assessments, practical recommendations, and recognition for real achievement. It is operated by BRING recycling and funded by multiple partners including the City of Eugene, Lane County, EWEB, and Springfield Utility Board. More information can be found at www.bringrecycling.org

Eugene Coffee Company receives a Re:think award

City of Eugene Internal Climate Action Plan

The City of Eugene continues to implement its Internal Climate Action Plan, improving practices to reduce energy used throughout municipal operations. As part of this effort, a staff group is updating the City's Internal Greenhouse Gas Inventory in order to measure

changes in energy use over the past several years. The City of Eugene Internal Climate Action Plan can be found on the "Climate change and energy use" page at www.eugene-or.gov/sustainability

Willamette Valley Compact

With leadership from The Resource Innovation Group (www.theresourceinnovationgroup.org), county and municipal governments up and down the Willamette Valley are developing a Willamette Valley Compact. Once initiated this agreement could help local governments collaborate on regional action on climate change.

Context: Changes Over The Past Year

No city is an island. National, regional, state, and local conditions heavily influence action on climate change in Eugene. Economic conditions, political trends, consumer prices, regulations, and many other factors play an important role in what we achieve locally. Some of the more influential circumstances that provide context for this Progress Report are described below:

National and Global Research

Leaders and analysts around the world are taking the risks of oil depletion and climate change seriously. Recent research conducted by reputable research and insurance firms continue to shed light on the scale of the challenges.

A recent report from a national security specialist, Sandia National Laboratories, quantifies the financial risk from climate change, stating: " . . . The uncertainty associated with climate change substantiates the risks to the economy and society. Policymakers will most likely need to make decisions about climate policy before climate scientists have resolved all relevant uncertainties about the impacts of climate change . . .The study finds with 98 percent confidence that changes in rainfall patterns will cost the economy between $600 billion and $2 trillion over the next 40 years unless action is taken to prevent climate change."

Similarly, insurance giant Lloyd's of London produced a white paper on *Sustainable Energy Security: Strategic Risks and Opportunities For Business* that makes the key points clearly:

1. Businesses which prepare for and take advantage of the new energy reality will prosper – failure to do so could be catastrophic.
2. Market dynamics and environmental factors mean business can no longer rely on low-cost traditional energy sources.
3. China and growing Asian economies will play an increasingly important role in global energy security.

4. We are heading towards a global oil supply crunch and price spike.
5. Energy infrastructure will become increasingly vulnerable as a result of climate change and operations in harsher environments.
6. Lack of global regulation on climate change is creating an environment of uncertainty for business, which is damaging investment plans.
7. To manage increasing energy costs and carbon exposure, businesses must reduce fossil fuel consumption.
8. Business must address energy-related risks to supply chains and the increasing vulnerability of "just in time" models.
9. Investment in renewable energy and "intelligent" infrastructure is booming. This revolution presents huge opportunities for new business partnerships

National Conditions:

The national economic slump continues. Economic growth has been fairly stagnant since the crash that occurred in 2008. National unemployment remains high and Oregon's unemployment rate at a seasonally adjusted 9.5% in July 2011 remains above the national average. The Eugene Springfield Metro area unemployment rate has dropped from 10.9% in 2010 to 9.5% in 2011.

Gasoline and diesel prices have dipped and then rebounded (Chart 1). Rising gas and diesel prices put downward pressure on economic recovery and simultaneously encourage practices that conserve gasoline and diesel (and therefore reduce greenhouse gas emissions).

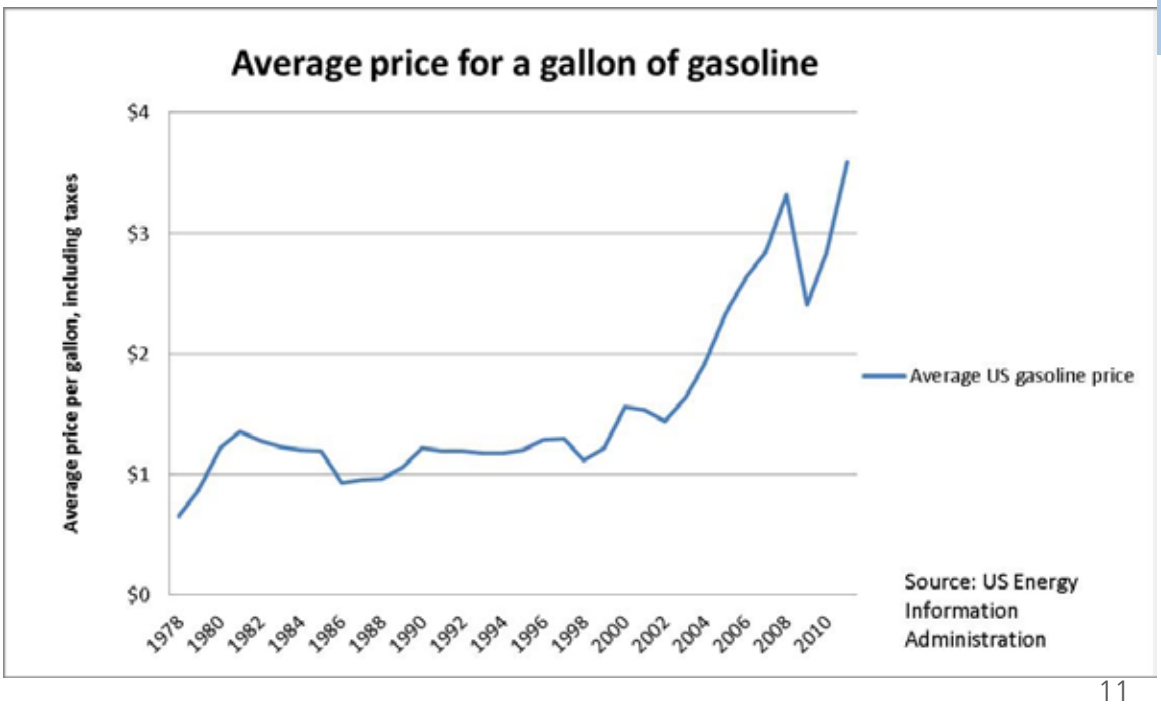

Chart 1

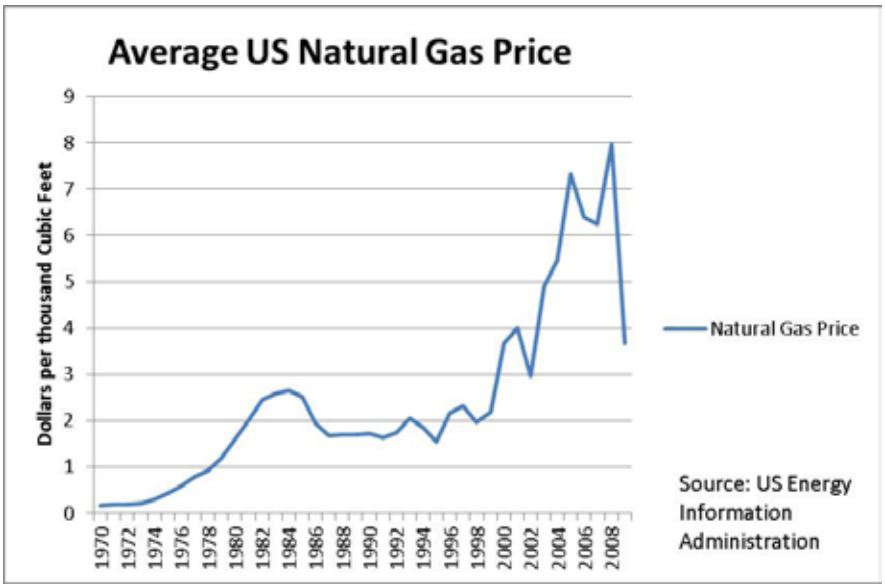

Chart 2

Natural gas prices have dropped precipitously in the last two years (Chart 2) primarily due to the availability of previously unrecoverable shale gas. A new technology called hydrologic fracturing or "fracking," releases natural gas from porous rock but has raised significant environmental and human health concerns. Low natural gas prices reduce financial incentive to increase energy efficiency where natural gas is being used for water heating, space heating, and industrial uses.

A proposed Keystone XL pipeline would transport heavy, unconventional oil from Alberta, Canada to Texas. The financial profitability and extraction of this unconventional oil suggest that conventional (and typically less expensive) sources of oil have been depleted, supporting the notion that the peak of global oil production may have passed. Because this heavy oil requires large amounts of natural gas to extract and process, it carries substantially higher greenhouse gas emissions than a conventional liquid crude oil.

While national polls show a decline in the number of people concerned about climate change, recent coverage in the popular media has drawn attention to extreme weather events, making connections to climate change and highlighting the need for more aggressive climate adaption strategies.

Federal Government:

Climate Policy

In the past year, no federal legislation has been passed that limits greenhouse gas emissions, such as a carbon tax, or cap and trade program.

CAFE Standards

In the summer of 2011, the Obama administration announced plans to increase Corporate Average Fuel Economy (CAFE) standards. These standards direct auto manufacturers to produce vehicle fleets with a specific average fuel economy. The standard will increase gradually from today's 27.3 miles per gallon to 54.5 miles per gallon by 2025.

PACE

The PACE (Property Assisted Clean Energy) program, a promising financial tool to incentivize energy efficiency and renewable energy investments, was abandoned when it ran into legal barriers with the Federal Housing Authority. A few alternate tools have emerged but have yet to be put in place in Eugene.

State Government:

Oregon Roadmap to 2020

In October 2010, the Oregon Global Warming Commission (OGWC) unanimously adopted an interim Roadmap to 2020 report that outlines greenhouse gas reduction strategies across the state. The OGWC is taking the interim report to communities across the state to gather feedback. In the spring of 2011, the commission came to Eugene drawing a large group of interested participants.

State climate policy

In the past year, no state legislation has been passed that either limits greenhouse gas emissions; such as a carbon tax or cap and trade program, or raises the cost of fossil fuel, such as an increased gasoline tax. HB 2001 and SB 1059, adopted in 2009 and 2010 legislatures, require regional management of greenhouse gas emissions through setting of targets and scenario planning. In 2011 the Land Conservation and Development Commission adopted targets for regional greenhouse gas emissions reductions from light duty vehicles. For the Eugene Springfield metro area, the target is 20% reductions from 2005 levels by 2035. LCOG will be managing the mandated scenario planning and greenhouse gas modeling on behalf of regional partners.

State Climate Adaptation

In December 2010, the State of Oregon released The Oregon Climate Change Adaptation Framework, a guidebook for local and state agencies to aid in efforts to prepare communities for climate change.

State Budget Challenges

The 2011 Oregon Legislature was challenged with a state budget shortfall due to continued high unemployment and loss of one-time federal revenues. State cuts included reductions in funding for the business energy tax credit (BETC) program. This program supports energy efficiency retrofits and renewable energy installations. BETC funding for renewable energy projects has been all but eliminated. Tax credits for energy efficiency improvements in commercial and industrial buildings remain along with residential tax credits for renewable energy and energy efficiency.

Cool Schools

In June 2011, the Governor signed a new, law HB 2960, initiating a Cool Schools program that will fund retrofits of school buildings to make them more energy-efficient. More information about this and other energy-related state policy changes can be found here.

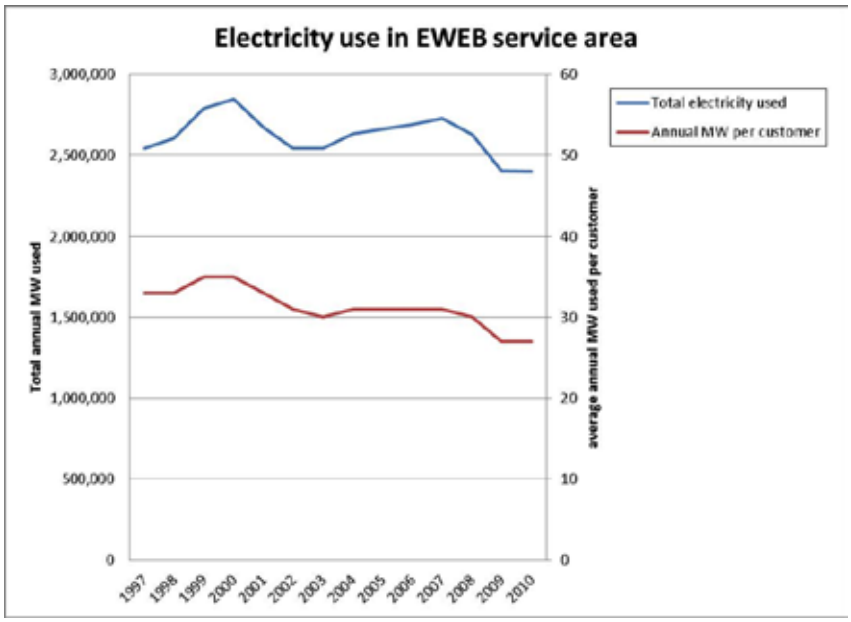

Chart 3

Community Greenhouse Gas Measurements

This section of the CEAP 2011 Progress Report is intended to review trends and measures of community-wide greenhouse gas emissions—most of them stemming from direct energy use. A more specific measure of greenhouse gas emissions, called a community greenhouse gas inventory, will be conducted every three to five years. The measures below, however, will help us monitor how we are doing yearly and will be included as a part of the annual progress report.

Electricity Use In EWEB Service Area

This chart (Chart 3) shows total annual electricity use and average annual electricity use per customer in Megawatts(MW) including commercial, residential, and industrial uses. This data is provided by the Eugene Water and Electric Board. Note that while EWEB doesn't serve all electricity customers in Eugene, it does serve the vast majority.

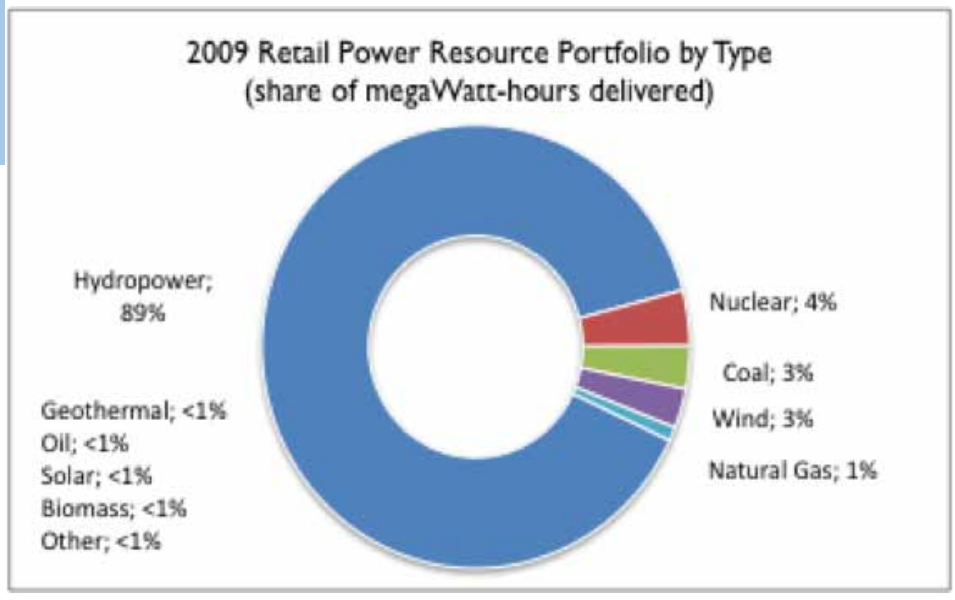

Chart 4

2009 EWEB Retail Power Resource Portfolio

This chart (Chart 4) represents the source of electricity delivered to retail customers in EWEB's service area. This chart is provided by EWEB and based on data from EWEB's 2010 greenhouse gas inventory. It can provide readers a sense of how much renewable energy is included in EWEB's electricity mix.

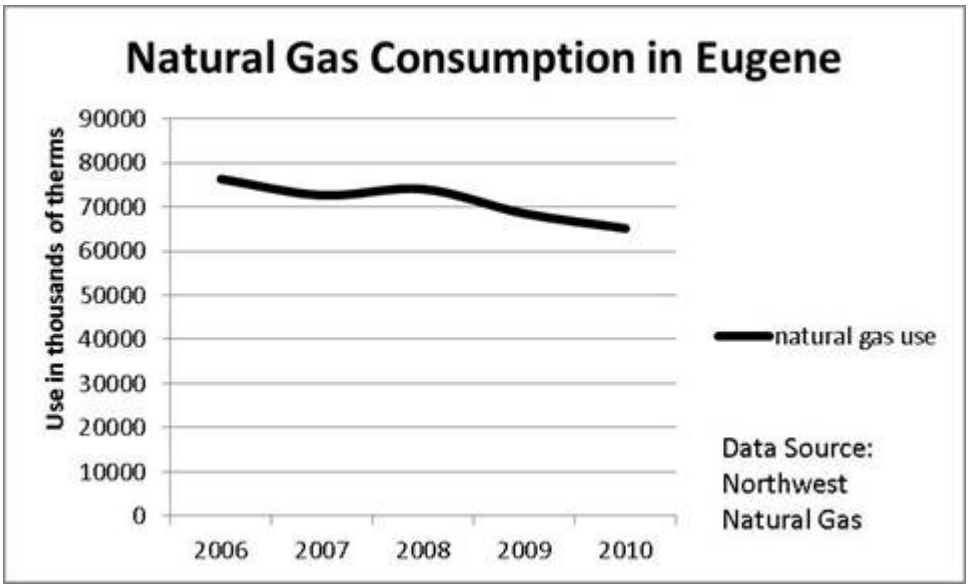

Chart 5

Natural Gas Burned

This chart (Chart 5) shows total natural gas consumed annually in Eugene for commercial, residential, and industrial uses. This data are provided by Northwest Natural Gas.

Gallons of Gas and Diesel Burned

This chart (Chart 6) illustrates annual average gallons of gasoline and diesel purchased in Eugene. The data are furnished by the State of Oregon, based on Oregon state tax receipts, and processed primarily by Lane Council of Government staff. The straight line illustrates the fossil fuel target set by Eugene's City Council, a 50 percent reduction in gasoline use by the year 2030. For context, the average price per gallon of fuel is added. Average US Fuel price data are provided by the Energy Information Administration.

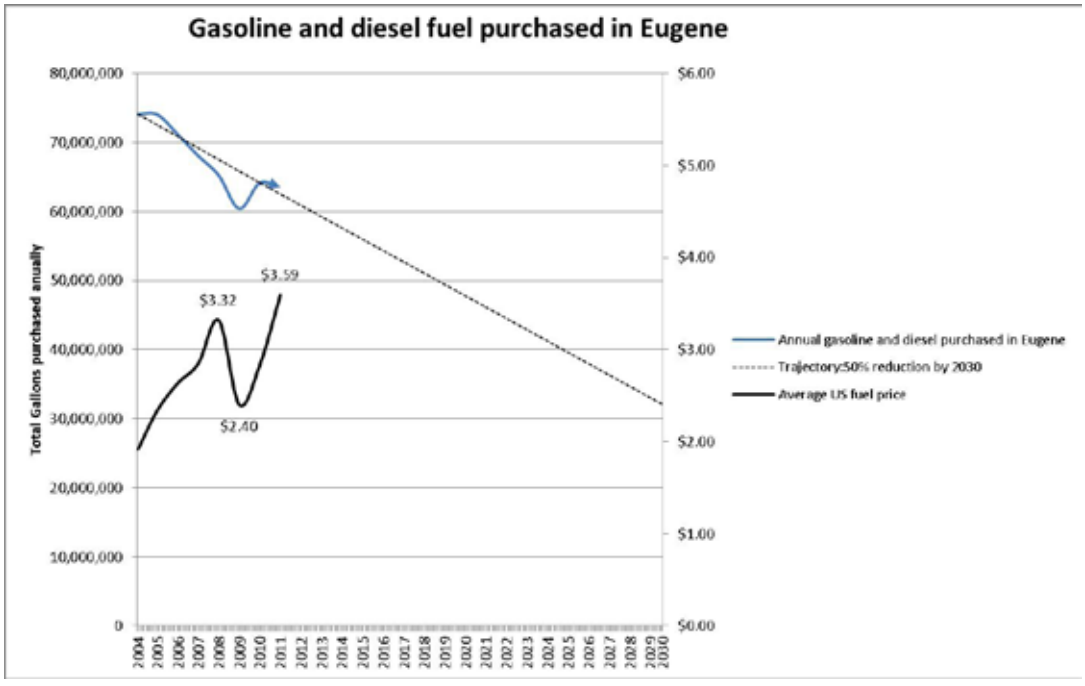

Chart 6

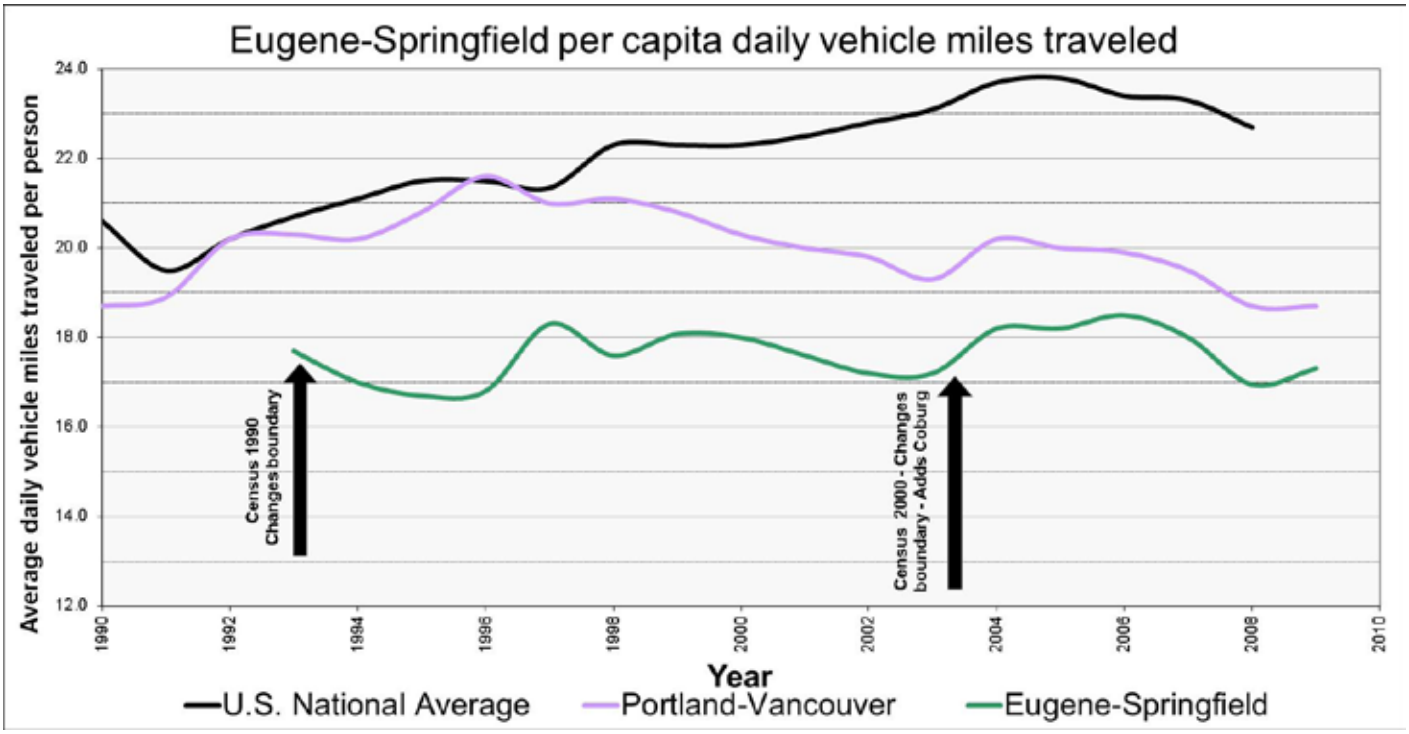

Chart 7

Automobile Vehicle Miles Traveled (VMT) is based on auto traffic measurements and calculations made by Lane Council of Governments. This is a measure of automobile traffic—specifically how many miles are traveled on Eugene/Springfield roads annually.

Percent of commute trips made by all modes of transportation is based on Census Bureau data collected every three years. These data reflect how people get to and from work in Eugene. The many other trips that are taken during the course of a year are not reflected in this chart.

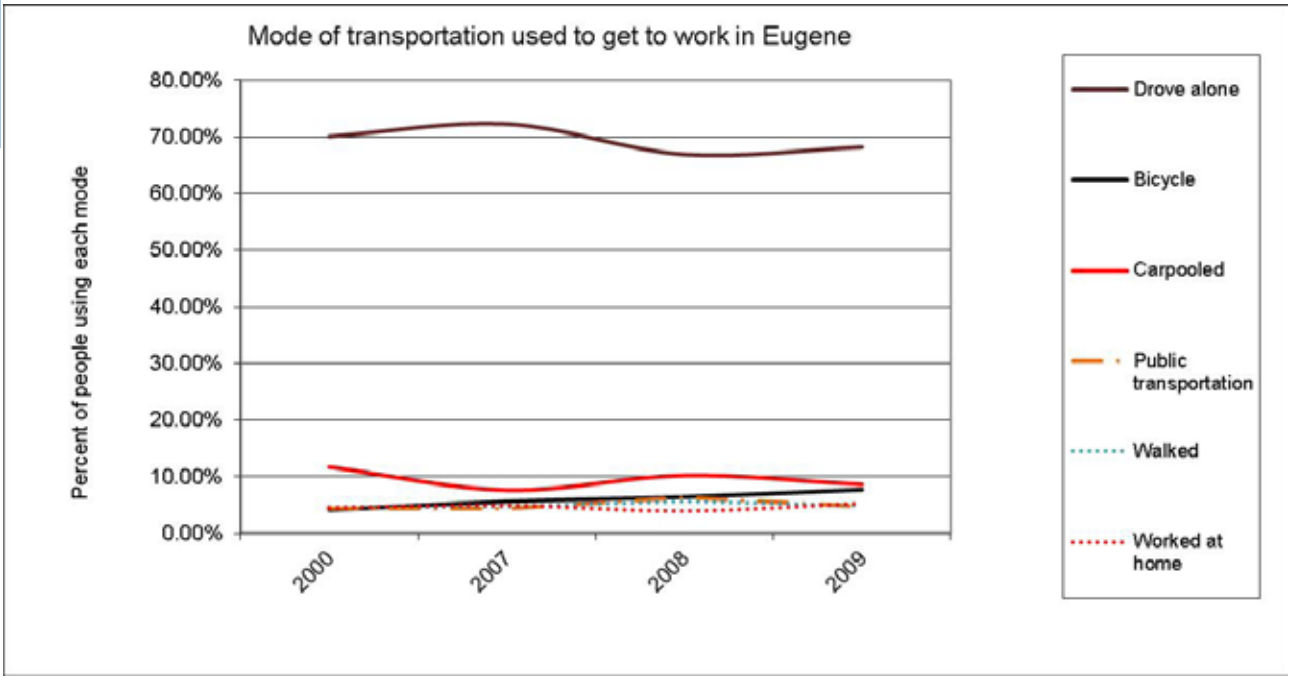

Chart 8

Pounds of waste sent to landfill and recycled is based on data from Lane County and provided by the Oregon Department of Environmental Quality. This measures the amount of waste generated and the "diversion rate," that is, the amount that is diverted from the landfill primarily through recycling. Measures of waste generated are included in this summary because embodied energy, that energy used to extract the materials and manufacture a good, is a significant source of community greenhouse gas emissions. The amount of waste generated can provide a rough measure of the amount of goods being purchased over time, providing us with a loose tool to track greenhouse gas emissions from embodied energy. For further explanation of the sources of greenhouse gas emissions, see Eugene's 2010 Community Climate and Energy Action Plan. This data is not yet available for 2010.

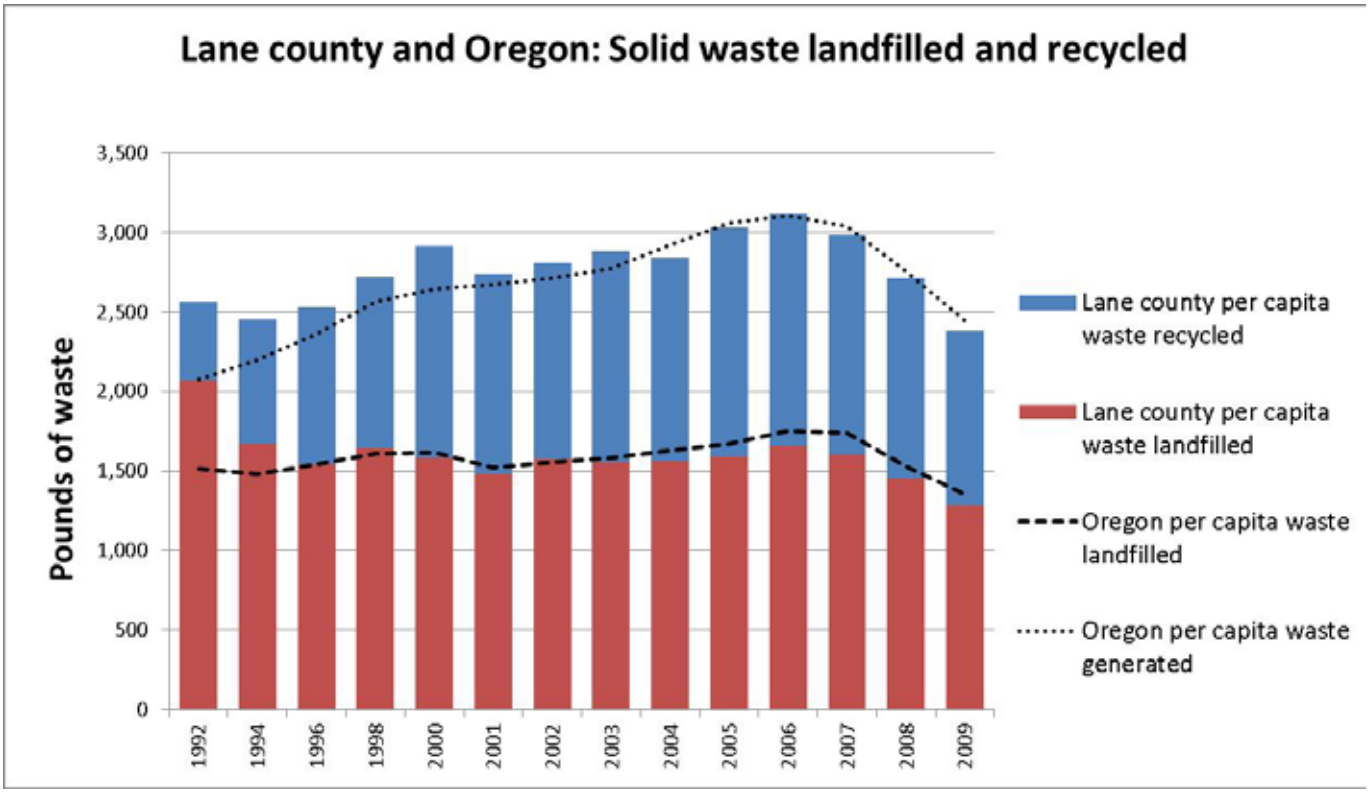

Chart 9

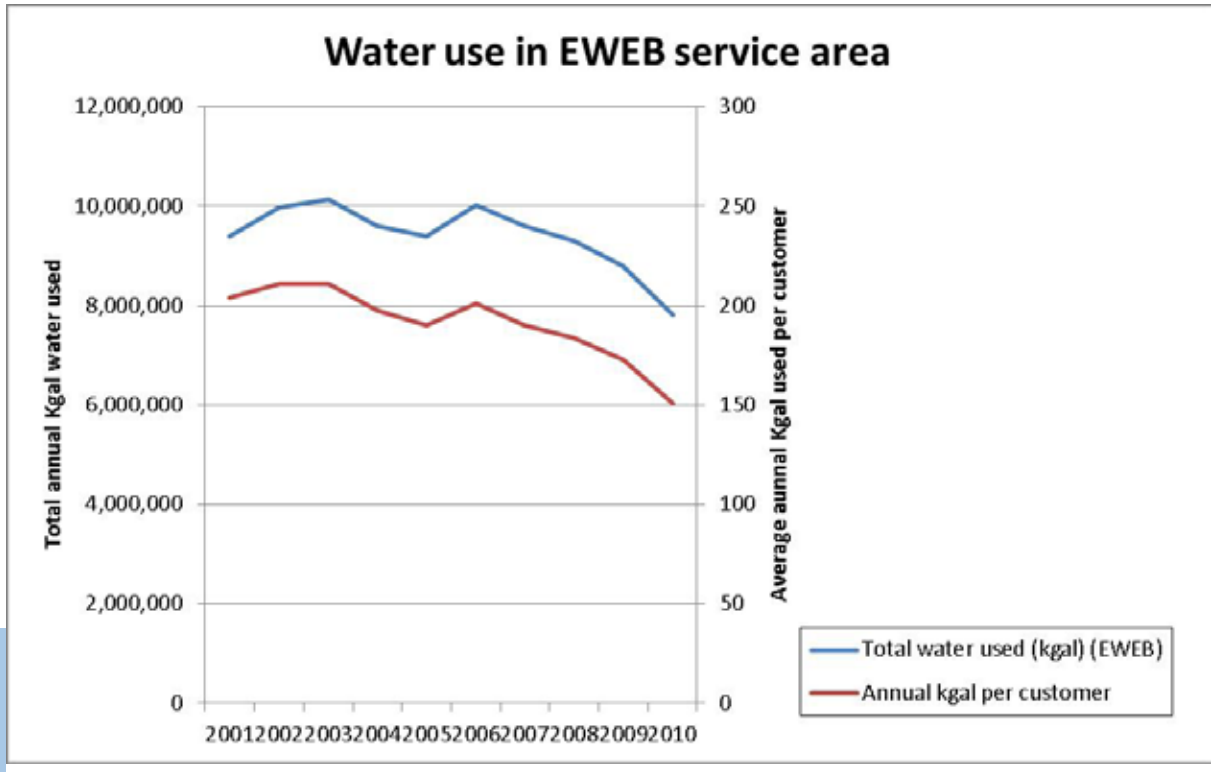

Chart 10

Water use in EWEB service area includes residential, commercial, and industrial users. The measure of water use is included not only because water requires electricity to treat and pump, but primarily because water supply is a significant concern when it comes to adapting to climate change. This measure can help us think about how Eugene is preparing for a future climate that is different from the one we are experiencing today.

General Trend

Overall, the general trend of fuel use, waste generation, and greenhouse gases appears to be moving slightly downward. Interestingly, all of these trends began several years before the economic downturn that occurred in the last half of 2008. Many analysts suggest that the economic downturn was the primary reason for reduced waste generation and reduced consumption of fossil fuels, but the measures collected here suggest otherwise.

It is important to note that this analysis is based on the collection of measurements above, not a comprehensive community greenhouse gas inventory. While the recent trend overall appears to be reduced energy use, water use, and waste generation, many things influence greenhouse gas emissions and no causal relationship to any one action can be explicitly stated. The Climate and Energy Action Plan has been in use for only one year but as more time elapses, longer-term trends should provide one indicator of its effectiveness.

Strategy Scorecard

A snapshot of strategies finished, striding, getting started and no movement.

KEY  = finished  = striding  = getting started  = no movement

	Strategies finished	Strategies in stride	Strategies getting started	Strategies with no movement
BUILDINGS AND ENERGY	=1	=3	=14	=4
FOOD AND AGRICULTURE	=1	=4	=6	=5
LAND USE AND TRANSPORTATION	=0	=10	=6	=3
CONSUMPTION AND WASTE	=1	=4	=9	=4
HEALTH AND SOCIAL SERVICES	=0	=0	=10	=3
URBAN NATURAL RESOURCES	=4	=3	=8	=6

Progress: Action Update

This section contains an update on each of the recommendations contained within the 2010 Climate and Energy Action Plan. The updates were informed by input from a variety of organizations and agencies. The status 2011 provides the best available information at the time of printing. Where possible, a status report for 2010 is also provided to give the reader a point of comparison.

KEY  = finished  = striding  = getting started  = no movement

BUILDINGS AND ENERGY

 1.1. Identify the most cost-effective opportunities for increasing efficiency in existing buildings.

Status 2010	In July 2010, EWEB produced a Conservation Potential Assessment describing priority actions for electricity conservation and clearly describing the point at which it becomes cost effective.
Status 2011	In 2011, the findings from EWEB's Conservation Potential Assessment are being applied in the creation of EWEB's Integrated Electricity Resource Plan that will determine the amount of investment EWEB makes in conservation over the next several years. In January 2011, Energy Trust of Oregon released its Energy Efficiency and Conservation Measure Resource Assessment for 2010 – 2030. This document describes priorities for energy savings including natural gas use.

 1.2. Expand assistance and incentive programs for building retrofits that increase energy efficiency and reduce the carbon footprint of existing buildings.

Status 2010	BRING recycling began its RE:think program in 2009. From March 2010-December 2010 the program taught 34 business owners how to reduce energy use, water use, and waste generation.
Status 2011	City of Eugene staff are exploring ways to connect property owners to resources that help reduce energy consumption in rental housing. The City of Eugene Rental Housing Code is under review as it approaches its sunset date at the end of the year, and incorporating energy efficiency standards would require extension and expansion of the program. EWEB spends approximately $5.5-$6.0 million on energy efficiency retrofits annually. Since 2010 BRING's RE:think program has worked with businesses to invest in lighting and refrigeration upgrades that have resulted in an estimated savings of 120,000 KWH per year, equivalent to a reduction of 95,200 lbs. of C02 emissions based on the Northwest Power Pool emissions factors. Between January 2011 and August 2011 this program reached 33 businesses in Eugene. A City of Eugene staff group, focused on the Buildings and Energy section of the Climate and Energy Action Plan priority actions, is investigating ways to increase financial assistance for low-income populations and renters in order to support energy efficiency retrofits that will reduce utility costs. The City, EWEB and the Housing Authority of Lane County (HACSA) collaborated on an Affordable Housing Energy Improvements Project to extend the life of existing affordable housing developments, reduce energy consumption, decrease utility costs for low-income tenants, and improve living conditions for vulnerable community residents. The partners contributed funds, solicited and reviewed proposals, and ultimately awarded $594,000 in grants and incentives for 160 units at 6affordable housing developments, resulting in an estimated annual savings of 237,000 Kilowatt hours and 172,000 lbs of CO2. The Oregon State Legislature reduced program funding for the Business Energy Tax Credit (BETC) program that provided tax break and grant funded incentives for energy efficiency and renewable energy projects. BETC funding remains for energy efficiency projects but is reduced significantly for installation of renewable energy systems. The Residential Energy Tax Credit (RETC) program is still intact and continues to offer tax credits for residential energy efficiency and renewable energy projects.

1.2a) Work with Energy Trust of Oregon to focus on improving efficiency in buildings that are heated with natural gas.

Status 2011	In fall of 2011, a City of Eugene staff group will begin crafting a strategy to address natural gas efficiency in buildings. This will include collaboration with Energy Trust of Oregon and Northwest Natural Gas. This group will assess the cultural, financial, and political barriers that are preventing more gains in natural gas efficiency. The collaboration will work to remove those barriers.

1.2b) Target sectors with high-efficiency potential including rental buildings, multifamily housing, remodels, and commercial tenant infill.

Status 2011	Working with local partners to maximize grant funding from the Energy Efficiency and Conservation Block Grant (EECBG), the City of Eugene created the Affordable Housing Energy Improvements Program in 2010. The program brings together the City of Eugene, Housing And Community Services Agency of Lane County (HACSA), and the Eugene Water and Electric Board (EWEB) to help existing affordable housing projects become more energy efficient. Together, the agencies were able to pool their resources for a total of $594,000 to fund six affordable housing energy improvement projects that were selected through an application process. The partnership will result in energy improvements for 160 affordable housing units and reduce annual energy use by 236,854 Kilowatt hours – enough energy to power the average house for 16 years, and equating to 171,768 lbs. of reduced CO_2emissions.

1.3) Establish a project fund to complement existing loan and incentive programs by focusing on long-term, low-interest financing mechanisms for residential and commercial energy efficiency and/or renewable energy system installations.

Status 2010	In 2010, Lane County, EWEB, and the City of Eugene were creating a Property Assessed Clean Energy (PACE) financing program with regional partners. This effort was put on hold indefinitely due to action by the Federal Housing Administration that reduced the viability of PACE loans nationally. The existing EWEB loan programs issue an estimated $1 to $2 million dollars annually the purposes of energy conservation and efficiency retrofits.
Status 2011	In 2011, regional partners including Lane County, EWEB, and the City of Eugene began discussions with Clean Energy Works Oregon (CEWO) to establish a residential energy retrofit program fund in cooperation with local lending institutions. Due to changes in staffing at Lane County and a lack of information on the need for the types of products CEWO offers, this project is on hold. Changes in statewide tax incentives for energy efficiency (BETC) were adopted by the Legislature, with the resulting program impacts currently being evaluated. In 2011, the Oregon State Legislature reduced program funding for the Business Energy Tax Credit (BETC) program that provided tax breaks and grant funded incentives for energy efficiency and renewable energy projects. BETC funding will continue for energy efficiency projects but is reduced significantly for renewable energy systems.

1.4. Target occupant behavior in order to reduce energy use in all types of buildings.

Status 2010	A Climate Masters Program was developed by The Resource Innovation Group and funded by Lane County Waste Prevention. This program educates both business owners and residents about energy use, and includes information about how actions like controlling thermostats and operating windows, can reduce building energy use. The Eugene Public Library has a kill a watt energy meter available for check out. These tools can help electricity consumers better understand the demands of individual plug in electronics. BRING recycling began its RE:think program in 2009. From March 2010-December 2010 the program taught 34 business owners how to reduce energy use, water use, and waste generation, in part through changes in occupant behavior.
Status 2011	The Climate Masters at Home program, now operated by City of Eugene Recreation Department and sponsored by Lane County Waste Prevention, encourages homeowner awareness of energy use and informs students about the importance of actions like controlling thermostats and operating windows in reducing building energy use. EWEB is beginning a major project to roll out Advanced Metering Infrastructure, commonly referred to as smart meters. EWEB is researching equipment and preparing a smart meter pilot in Eugene. Implementation is likely to begin in 2013. This project will enable better communication with customers and, with the aid of price signals, will encourage electricity conservation by providing customers with better information to make informed choices. From January 2011- August 2011 BRING's RE:think program helped 33 business owners reduce energy use, water use, and waste generation, in part through occupant behavior such as manually adjusting thermostats.

1.5. Adopt an energy performance score program or similar tool to disclose total energy use in existing and new buildings for use by builders, realtors, owners, and renters.

Status 2010	No energy performance scores were available locally in 2010.
Status 2011	EWEB now offers an Energy Performance Score (EPS) for new residential construction. EWEB is working on piloting the Energy Trust of Oregon's model for existing buildings when it is available. New legislation would be required to make use of this tool mandatory - otherwise it would remain voluntary. Based on feedback from a builder survey, EWEB is also looking at using EPS scores as the basis for efficiency incentives. The City of Eugene Waste Prevention and Green Building program is assessing the possibility of including an Energy Performance Score in its Green Building Incentive program. The city of Eugene and EWEB are also planning an EPS Summit for this fall or winter to educate the building community about the value of EPS and discuss how to further its use locally.

2.1. Lobby for adoption and actively participate in development of building code amendments that meet the Architecture 2030 standards for energy efficiency

Status 2011	The City of Eugene and EWEB provided input during the 2011 legislative session on improvements to the state building code and the newly adopted Reach Code for energy efficiency. According to state reporting, "The primary goal of the [Reach] code is to provide an optional set of statewide construction standards for energy efficiency that exceed the requirements of the state's mandatory codes. The Reach Code will act like a statewide alternate method: builders will have an optional "green" path and jurisdictions can be assured the state-of-the-art construction methods are sound." More information is available at: http://www.bcd.oregon.gov/committees/11reachcode.html

2.2. Increase incentives for highly energy-efficient new buildings aiming toward zero net energy and carbon neutral buildings.

Status 2011	The City of Eugene Green Building Incentive Program has used grant funding to provide building permit rebates for high performance buildings, so far totaling $8,000. The City and EWEB are also working together to support Eugene's first affordable housing project that will test an innovative Passive House approach (www.passivehouse.us), which has been shown to decrease energy use for heating up to 90%. In developing the 54-unit Stellar apartments, St. Vincent de Paul Society of Lane County plans to construct one of the apartment buildings to Passive House standards and the rest to Earth Advantage standards (www.earthadvantage.org), providing an opportunity to compare the performance, costs, and benefits of these standards. The City and EWEB are providing funding and technical support for this project to model an approach that could be replicated on other affordable housing projects. The City is also funding a University of Oregon life cycle assessment on the energy and climate benefits of these two approaches. Passive House standards, designed for buildings that aim to use little or no energy for space heating or cooling, are being incorporated into the City of Eugene Green Building program. The University of Oregon will begin new campus-wide building standards. In August 2011, according to a University of Oregon Press Release, "The University of Oregon adopted sustainability standards that will cap energy use from new development, resulting in a net-zero increase in energy use despite continued construction on its 295-acre campus. New projects will be required to meet LEED Gold certification and must produce 35 percent greater energy savings than the state's building code requires."

2.2a) Revise or expand incentives to encourage smaller homes that require less energy to operate and fewer building materials to construct.

Status 2010	Eugene's Green Building Incentives Program provides incentives for construction of smaller homes. Incentives include building permit rebates and special staff assistance with building permits.
Status 2011	Oregon Department of Environmental Quality research completed last year concluded that smaller homes have a smaller carbon footprint supporting the idea that incentivizing smaller homes is a useful method to reduce community greenhouse gas emissions. The report, A Life Cycle Approach to Prioritizing Methods of Preventing Waste from the Residential Construction Sector in the State of Oregon, is available on DEQ's website at http://www.deq.state.or.us/lq/sw/wasteprevention/greenbuilding.htm. Eugene's Green Building Incentives Program continues to provide incentives for construction of smaller homes.

3.1. Increase the use of on-site renewable energy systems, such as solar hot water, photovoltaic, and ground-source heat pumps, by removing financial, infrastructural, regulatory, and perceptual barriers.

Status 2011	A recent decrease in the Oregon residential tax credit (RETC) for renewable energy sources has dampened activity levels. EWEB has been marketing solar water heating, however, the response has been limited. EWEB and the City of Eugene are partnering on a community survey that will gauge attitudes about solar energy use, determine ratepayer willingness to support subsidies for solar electricity generation, and reveal barriers to adoption of solar technologies.

3.1a) Invest in EWEB's downtown network to allow surplus energy from photovoltaics on downtown buildings to be integrated into the electricity grid.

Status 2010	In 2010 EWEB was aware of the need to invest in the downtown network
Status 2011	EWEB is currently in the planning and design phase to upgrade the downtown network for this purpose. Infrastructure assessment is underway with major work starting in 2012 and completion planned for 2014 – 2015.

3.1b) Address the financial barriers to onsite renewable energy by expanding financing options like long-term loans and property-assessed clean energy bonds.

Status 2011	A few private solar firms including Solar City are offering lease options for photovoltaic panels in Eugene. Other financing options are available through local banks. Low electricity costs in the EWEB service area may reduce the financial motivation to install photovoltaic solar panels.

3.1c) Assess and reduce barriers to solar energy use and balance priorities for solar access.

Status 2011	There has been no specific action to address solar access priorities; however, the issue will likely be addressed in the City's next comprehensive plan, Envision Eugene.

3.3. Develop at least one community scale renewable energy pilot project by 2015.

Status 2011	A University of Oregon project developed a community solar decision support tool – funded through Meyer fund for sustainable environment – done through UO – currently in testing form and available at: http://communitysolar.dyndns.org/index.php

3.4. Develop district energy systems in Eugene. See 3.4a, 3.4b, 3.4c

3.4a) Remove legal, technical, policy, governance, and financial barriers to district energy systems.

Status 2011	During 2011, the City of Eugene conducted research to identify the legal, technical, and policy obstacles and uncover opportunities for establishing a district energy system in Eugene. In August, findings were presented to local agencies and interested parties. A final white paper and District Energy website is in process with an expected completion date of December 1, 2011.

3.4b) Complete the viability study for a district energy system for the EWEB Riverfront Master Plan.

Status 2010	In 2010, EWEB was working on a master plan for the Riverfront area.
Status 2011	EWEB completed a feasibility study for the development of a district energy system in conjunction with the sale of EWEB's downtown riverfront property.

3.4c) Develop at least one clean district energy, or shared energy, system pilot project by 2015 by working with property owners and local utilities.

Status 2011	Findings from research (above, 3.4a) will identify the priorities for accomplishing this action.

4.1. Encourage the use of passive systems in buildings for heating, cooling, ventilation, water delivery, and incorporate climate change preparation strategies into building design and construction.

Status 2010	Eugene Green Building Incentive Program provides incentives for buildings designed to LEED, Earth Advantage and Passive House standards, which encourage the use of these approaches. The City also partnered with the Eugene Branch of the Cascadia Green Building Council to put on educational events, which have included Passive House Design, Natural Ventilation, and Preparing for Climate Change in the Built Environment.
Status 2011	City of Eugene Waste Prevention and Green Building staff actively engaged in legislative discussions on the Oregon Reach Code (see action 2.1 above) and specifically on the inclusion of energy performance standards aligned with Passive House certification. The city of Eugene and Cascadia Green Building Council hosted a presentation on commercial Passive House design on 9/20/11. In spring 2012, with the support of multiple funding sources and tax credits, St. Vincent DePaul will begin construction on Stellar Apartments, a project that will provide 54 units of new affordable rental housing. This will be the first affordable housing project in Eugene that will test an innovative Passive House design. The entire development is designed to achieve Earth Advantage certification, which includes energy efficient design and equipment and solar hot water, features that will lower renter's utility costs. The City of Eugene Waste Prevention and Green Building Program and EWEB are providing support to construct part of the project using a Passive House design, an approach has been proven to decrease energy use for heating up to 90% without extensive upfront cost increases. To learn as much as possible from this project, the City of Eugene will fund a study to compare the benefits from Earth Advantage and Passive House designs. The project will be completed in 2013. For more information, contact Becky L. Wheeler becky.l.wheeler@ci.eugene.or.us or Jenna Garmon jenna.r.garmon@ci.eugene.or.us.

4.2. Provide education, assistance and incentives to reduce potable water use in new and existing buildings and landscaping.

Status 2010	BRING recycling has operated a RE:think program since 2009. From March 2010-December 2010 the program helped 34 business owners reduce energy use, water use, and waste generation. The City started offering reduced local wastewater system development charges for buildings that include low flow plumbing fixtures in 2009 as part of its Green Building Incentive Program.
Status 2011	The City of Eugene, EWEB, and NearbyNature, in conjunction with a host of donors, constructed a Water Wise Demonstration Garden located in Alton Baker Park that includes low water use plants, efficient irrigation a rainwater harvesting system, and a functioning rain garden and bioswale. More information can be found at: www.eweb.org/Public/insert.pdf From January 2011- August 2011 BRING's RE:think program worked with 33 businesses to install water-saving devices in more than 40 facilities.

4.2a) Lobby to improve state building codes.

Status 2011	In August, 2011, the Oregon Environmental Quality Commission approved rules that create a new, statewide program permitting greywater reuse and disposal systems. Oregon Department of Environmental Quality (DEQ) expects to begin issuing permits for greywater reuse and disposal systems in spring 2012.

4.2b) Develop incentives to encourage the use of passive heating and cooling systems, lighting, ventilation, and other strategies that reduce energy demand and better adapt buildings for a changing climate.

Status 2011	The City of Eugene continues to offer incentives for green building design, including Passive House buildings, through its Green Building Incentive Program.

FOOD AND AGRICULTURE

5.1. Begin a community campaign to educate the public about food choice as part of a climate-friendly lifestyle.

Status 2010	The Climate Masters Program was developed by The Resource Innovation Group and funded by Lane Co. Waste Prevention. This program educates business owners and residents about climate change and energy use, including the importance of food-related greenhouse gas emissions.
Status 2011	Thirteen students enrolled in the Climate Masters at Home program, operated in the spring of 2011 by the City of Eugene Recreation program.

5.2. Implement a "Buy climate-friendly first" food purchasing policy for public institutions including city and county governments, schools, and hospitals.

Status 2011	The University of Oregon dining halls buy approximately 20% of their food from local growers – this consists primarily of diary, meats, produce and flour. The University also purchases numerous products that, while not grown locally, are made in Eugene. In addition, the dining halls provide complete vegetarian meals to enable students to reduce meat consumption when desired.

6.1. Transition to agricultural methods that reduce GHGs. Support efforts of Oregon Department of Agriculture, Oregon Tilth, Oregon State University, Willamette Farm and Food Coalition, and other partners.

Status 2011	The McKenzie River Trust, with funding from EWEB, the Bonneville Power Administration and a contribution from Richard and Sandra Hunsaker, is now overseeing operation of an organic demonstration farm on the McKenzie River. The farm is designed to demonstrate the business case for improving water quality through the mutually beneficial practices of growing organic produce and improving riverside habitat. While not all organic food production results in lower in greenhouse gas emissions, organic production eliminates applications of conventional fertilizers that are made with large quantities of natural gas, thereby increasing the likelihood of fewer emissions. EWEB encourages farmers within the McKenzie River watershed to adopt organic practices by paying for organic farm certification for farmers within the watershed. Oregon State Department of Agriculture continues to promote a variety of activities that reduce greenhouse gas emissions. Staff have worked with several farmers in the southern Willamette Valley to apply for tax credits to support a transition to no-till practices in their grass seed and grain growing operations. No till practices are expected to reduce diesel use anywhere from 30%-80%. Oregon's Roadmap to 2020, the state climate action plan, contains an agricultural roadmap to achieve Oregon's greenhouse gas reduction goals by 2020. This was developed by Oregon Department of Agriculture, Oregon Department of Energy, and Oregon Environmental Council. In addition, Oregon Department of Agriculture worked with the Oregon Department of Energy and local organizations in several areas of the state to distribute federal stimulus dollars for irrigation efficiency improvements that reduced electricity consumption, reducing the risk of nitrous oxide emissions by minimizing saturated soils, and also saved water, an important climate adaptation strategy. OSU Extension Service – Lane County hosts a new program called Sustainable Landscape which is directly aimed at reducing inputs including water, fertilizer, and pesticides, into the local landscapes. All three of these inputs require energy and/or petroleum to produce and/or apply. Since late 2008, the program has held 16 classes, reaching over 320 people.

6.2. Conduct a pilot project at the River Avenue Wastewater Treatment Plant to determine the system's ability for co-digestion of food waste and biosolids as detailed in the Consumption and Waste section.

Status 2011	No progress to report

7.1. Strengthen land use regulations that protect farm lands, particularly those on high-value agricultural soils.

Status 2010	In 2010 Lane County elected officials were in the process of creating a long range plan that would protect high value farm and forest lands adjacent to Eugene and Springfield for a period of 40 to 50 years.
Status 2011	Envision Eugene (www.envisioneugene.org) the City's long term land use planning process, has identified multiple priorities. Several strategies within Envision Eugene address farmland and the Urban Growth Boundary specifically: "Meet all of the 20-year multi-family housing and commercial (office and retail) lands needs within the existing UGB, through development of vacant lands and also focusing new development and redevelopment on key transit corridors and core commercial areas (including downtown)." Meeting land needs within the existing urban growth boundary prevents expansion into adjacent farm lands. "Preserve valuable farm land outside the UGB." This strategy addresses the concern raised by many members of the public, that farmlands be protected. Lane County and the City of Eugene are working collaboratively to identify urban reserves that will protect farmlands adjacent to Eugene's urban growth boundary while identifying where Eugene will develop should additional acreage be necessary for the next 20-years growth.

7.2. Strengthen current farmland protections at state levels.

Status 2011	According to Oregon Department of Land Conservation and Development staff, there were a handful of bills passed in 2011 that affect farm land but the changes are not expected to be significant. Though new legislation and DLCD rulemaking over the last year provides no new protections of farm land, the changes are described as primarily clarifying and fairly neutral in their impact on farmland. In general, the bills mad it easier for land owners to include "non-farm uses on farmland including restaurants at large wineries, [and] more event venues on farmland." Details on state land use legislation can be found here: http://www.oregon.gov/LCD/docs/legislative/landusebills2011.pdf

7.2.a) Lobby state agencies to strengthen protections for high-value farmlands.

Status 2011	No progress to report.

8.1. Implement the following recommendations from Eugene's Food Security Scoping and Resource Plan.

8.1.a) Identify a City of Eugene liaison for food-system related programming.

Status 2010	A City of Eugene Compost Specialist addressed some of the urban food production interest. No full time dedicated staff.
Status 2011	Completed in Fall 2010. 1 full time position at the City of Eugene is now dedicated to coordinating urban food production.

8.1.b) Develop a comprehensive Community Food Security Assessment and implement changes to improve food security.

Status 2010	The City of Eugene Food Security Scoping and Resource Plan completed in April 2010, catalogs existing local food security-related efforts and needs and contains staff recommendations for next steps to increase local food security.
Status 2011	A Lane County Local Food Market Analysis was completed in September 2010. This award-winning applied research project and associated report, conducted by University of Oregon Community Planning Workshop and funded by the UO Economic Development Agency, Lane County, EWEB, and the City of Eugene, is a foundational document for a regional food security plan. The report includes information about local food supply, local food demand, economic forces, local crop production, and gaps and recommendations for improvement to the local food system. The report is available online at: https://scholarsbank.uoregon.edu/xmlui/handle/1794/10927

8.2. Develop an updated regional emergency food distribution plan that accounts for climate- and energy-based disruptions. The level of need for such a plan will be made clear by conducting a vulnerability assessment as outlined in the Health and Social Services section.

Status 2011	No significant changes to report

8.3. Increase the diversity and drought resistance of food crops grown in the upper Willamette Valley.

8.3a) Support efforts of food-advocacy organizations, food growers, and state agencies to develop appropriate crops.

Status 2011	Oregon Department of Agriculture (ODA) continues to administer US Department of Agriculture (USDA) specialty crop grant funds to support development of specialty crops in Oregon. ODA has a marketing specialist that works specifically to help promote farmers' markets and other local agricultural marketing opportunities. ODA employs a Farm-to-School coordinator who works to connect agricultural producers with school food purchasers. OSU Extension Services – Lane County hosts numerous classes to teach local farmers how to grow more local food crops.

8.3b) Prioritize development of vegetable protein crops such as beans and grains that are suited to the Willamette Valley.

Status 2010	Due to the downturn in the grass seed industry in 2009, 2010 saw increased interest among valley farmers for the cultivation of beans and grains—with a focus on transitioning from conventional grass seed to organic staple crops. Several farms began growing small test plots including several varieties of wheat, more than 30 varieties of beans, as well as millet, amaranth, dry corn, barley, and oats. In 2010 a small grain milling operation opened in Brownsville, marking an important step toward increased local production of beans and grains.
Status 2011	In 2011 a new grain mill opened in North Eugene. This mill and the one in Brownsville are now providing a variety of milled grains to bakeries up and down the Willamette Valley marking a huge step in the production of local staple crops. Growers continue to grow several varieties of beans and grains including some without irrigation. Several growers are transitioning their land into organic production to grow grains for sale locally. Conventional wheat acreage has increased from 30,000 acres in 2006 to over 200,000 in 2011 primarily due to increasing wheat prices and falling prices for ornamental grass seed – however most of this grain is shipped to Asia. Critical next steps include building dry storage for wheat and beans and creating a year-round market for direct sales of beans and grains. More information about Willamette Valley bean and grain production can be found online at: http://www.mudcitypress.com/beanandgrain.html Thank you to Dan Armstrong for helping to generate this report.

8.4. Remove barriers to using greywater in agriculture. Work with state lawmakers to find solutions for greywater re-use.

Status 2011	No progress to report.

9.1. Expand community gardens on public and private lands including school campuses, City lands, and church properties.

Status 2011	Over the last year the Victory Gardens For All program facilitated installation of 242 new vegetable gardens in the Eugene area. For more information about the program, contact Charlotte at 653-0149 or visit www.victorygardensforall.org The School Gardens Project of Lane County built one new school (vegetable) garden, expanded two existing gardens, and built one new native plant garden in Eugene. More information about the School Gardens Project of Lane County at: http://members.efn.org/~sgp/ The City of Eugene is providing funding for the School Garden Project to install composting facilities and school gardens in five Eugene schools in 2011. A West Eugene neighborhood association, the Active Bethel Citizens (ABC), is conducting a Strategic Neighborhood Action Plan (SNAP) with assistance from the City of Eugene Neighborhood Services. The SNAP focuses on food security at the neighborhood level and will include comprehensive community outreach and assessment of residents' needs and willingness to support better access to food, skill building in food self-sufficiency (home gardens, orchard, beekeeping, food preservation, etc.), a local farmer's market, and small-scale bean and grain cultivation. More information can be found at: www.eugene-or.gov/neighborhoods

9.1a) Conduct an assessment of opportunities for community garden locations within the city.

Status 2010	No assessment yet completed
Status 2011	The City of Eugene Compost and Urban Agriculture Coordinator is developing an Urban Agriculture Manual for the public to clarify and define resources for the development of neighborhood gardens in Eugene.

9.2. Encourage planting of non-invasive food-bearing trees and shrubs on public and private lands. Support urban tree food programs of such advocates as Tree by Tree, and the Eugene Tree Foundation.

Status 2010	In March 2010, a spring propagation fair was held at Lane Community College providing free exchange of plant material, inexpensive rootstocks, grafting services, a seed exchange and educational opportunities about food trees.
Status 2011	In November 2010, Eugene Tree Foundation (now Friends of Trees) conducted their first yard and fruit tree planting, placing a total of 41 fruit trees in the ground in the Trainsong neighborhood. More information at www.eugenetreefoundation.org. Tree by Tree (http://www.ecoseugene.org/tree-by-tree/) has provided valuable training and support by identifying, tracking, pruning, harvesting, and processing food trees in the Bethel neighborhood. The Avalon Project, Home Orchard Society, Lane County Extension, Eugene Permaculture Guild and various neighborhood groups have also made important contributions to using food trees locally. In the past 12 months the School Garden Project of Lane County began a Schoolyard Orchards program that resulted in the planting of 41 new fruit trees and numerous fruit-bearing shrubs in Eugene. More information at http://members.efn.org/~sgp/

9.3. Reevaluate limitations on numbers and types of animals permitted under Eugene's code to allow, where appropriate, an increase in the number and variety of food-producing animals that can be kept by urban residents.

Status 2010	In summer 2010 City Council endorsed staff action to suspend enforcement of the number of chickens homeowners were allowed to keep in Eugene under Eugene Code 9.520. Officers continue to enforce codes for other factors including noise and smell.
Status 2011	Envision Eugene (www.envisioneugene.org) will be accompanied by updates to City code that will address this issue.

LAND USE AND TRANSPORTATION

10.1. Make the creation of 20-minute neighborhoods a core component of the Eugene Plan and the Eugene Bicycle and Pedestrian Master Plan.

Status 2010	Both Envision Eugene (the process to create Eugene's Comprehensive Plan or Eugene Plan) and the Pedestrian Bicycle Master Plan began in 2010.
Status 2011	The policy section of the Draft Pedestrian and Bicycle Master Plan contains the following: "Create 20-minute neighborhoods by providing accessible, efficient, and convenient methods for pedestrians and bicyclists to travel to the places where they live, shop, work and play by expanding and improving Eugene's bicycle and pedestrian network." The Draft Pedestrian and Bicycle Master Plan includes the following recommended policies: 1.1: Make bicycling and walking more attractive than driving for trips of two miles or less. 1.2: Increase pedestrian and bicycle connectivity between existing residential neighborhoods and nearby commercial areas, parks, and schools. 1.5: Construct high-quality pedestrian and bicycle infrastructure to provide safer, more appealing and well-connected facilities. 1.8: Provide a continuous sidewalk network along all city streets that have been upgraded to urban standards or as part of urban standards upgrades to unimproved streets. The Draft Pedestrian and Bicycle Master Plan will be available online in the fall of 2011. More information about the plan can be found at: www.eugenetsp.org The Plan for climate change and energy uncertainty section of the Envision Eugene draft proposal contains a strategy to: "Plan for growth so that an increasing proportion of residents live in 20-Minute Neighborhoods where residents can meet most of their daily needs within walking distance from their homes. This strategy is intended to reduce the need for, and reliance on, motorized forms of transportation." More information at www.envisioneugene.org

10. 2. By 2013, complete and implement a 20-minute neighborhoods plan.

Status 2010	Though many neighborhoods in Eugene have the characteristics of a 20 minute neighborhood that encourage walkability, no specific work had begun on this action item prior to the adoption of this plan in summer 2010.
Status 2011	In the winter of 2010 the City of Eugene Planning Department funded a 20 minute neighborhoods assessment that identified key components of a 20 minute neighborhood, determined existing conditions and located needs. Projects that support the concept of 20 minute neighborhoods continue to be planned and built throughout Eugene and this assessment has spurred planning that will create more 20 minute neighborhoods. The assessment can be found online at: www.eugene-or.gov/twentyminuteneighborhood

11.1. Zone future commercial and high-density residential uses in and around the urban core, and along EmX and other high capacity transit corridors to accommodate urban growth.

Status 2011	Through Envision Eugene, the City's long term land use planning process, the community has identified a variety of priorities to guide growth over the next 20 years. The following strategies, included in the "Compact Development" pillar of the Envision Eugene draft proposal, support action 11.1: Strategy 1: Meet all of the 20-year multi-family housing and commercial (office and retail) lands needs within the existing UGB, through development of vacant lands and also focusing new development and redevelopment on key transit corridors and core commercial areas (including downtown). Strategy 2: Facilitate the transformation of key transit corridors and core commercial areas as mixed-use neighborhoods that foster active, walkable, community living by providing a mix of residential, commercial, retail, and public uses in proximity to one another- in many cases within a single building. Strategy 4: Make compact urban development within key transit corridors and core commercial areas easier. More information about Envision Eugene can be found at www.envisioneugene.org

12.1. Closely monitor the community's population growth rate to gauge whether population projections are accurate.

12.1a) Set population thresholds that will trigger review of community growth plans; for example, if growth rates are significantly different than projections for several years in a row.

12.1b) If trends show a significantly higher rate of population increase than was assumed in the planning process, Eugene should update its planning model sooner than legally required.

Status 2011	Through Envision Eugene, the City's long term land use planning process, the community has identified a set of core "pillars" and strategies to guide growth over the next 20 years. One of these pillars is to, "Provide for adaptable, flexible, and collaborative implementation," and includes the following strategy: Create an ongoing monitoring system to collect and track key information. • Identify specific plan goals and objectives to be monitored, such as housing mix. • Identify types of data needed to collect to support monitoring, such as population growth, densities, types and numbers of housing units constructed, job growth and rate of land consumption. More information about Envision Eugene can be found at www.envisioneugene.org

13.1. Create a pedestrian and bicycle master plan that will accomplish the following:

13.1a) Identify mobility gaps in the bicycle and pedestrian transportation system.

13.1b) Recommend improvements to increase safety (real and perceived), comfort, speed, and convenience for users of all ages and skill levels.

13.1c) Create a plan for implementing the necessary system improvements.

13.1d) Identify funding sources for implementation.

Status 2010	The process to create a new Pedestrian Bicycle Master Plan was initiated in the summer of 2010.
Status 2011	The draft Pedestrian and Bicycle Master Plan contains a list of recommended pedestrian and bicycle improvements in every neighborhood of the city. Recommendations were shaped by public input from four Walking and Biking Summits, online mapping exercises, surveys, public open houses, and a neighborhood toolkit. A final draft of the Pedestrian and Bicycle Master Plan will be available for public review in early September, 2011 with the final draft presented to the City Council on October 12. Adjustments and adoption of the plan are expected to be completed by early 2012. The draft plan proposes a 20-year project list that would require an estimated $60 million. This is approximately 50% more than the amount of funding that the city has spent in recent years on pedestrian and bicycle facilities.

13.2. Increase the mileage and connectivity of bicycle boulevards and shared-use paths to encourage biking by cyclists of various skill levels.

Status 2011	Over the past 12 months several bicycle facility projects have been completed or are nearing completion, including a pedestrian and bicycle bridge at Delta Ponds, the West Bank Path Extension (under construction), and the Alder Street Cycletrack (under construction).

13.3. Create a "Complete Streets" policy that requires all subsequent transportation and rehabilitation projects to incorporate infrastructure for bicycles, pedestrians, and mass transit service.

Status 2010	TransPlan, the city's current Transportation System Plan (TSP), contains the elements of a complete streets policy but the relevant policies in TransPlan are not articulated or packaged as a Complete Streets Policy. The Design Standards and Guidelines for Eugene Streets, Sidewalks, Bikeways and Accessways, one of the adopted elements of the Arterial and Collector Streets Plan, implements the policies in TransPlan that relate to complete streets issues.
Status 2011	The city is currently developing a new Transportation System Plan and through this process new policies will be advanced that include a more explicit complete streets policy approach.

14.1. Diversify funding sources for Lane Transit District (LTD) to increase the long-term reliability of mass transit service while maintaining cost effective and fuel efficient transit service.

Status 2011	Approximately 75% of LTD operating costs are currently funded through payroll taxes that are subject to economic cycles and fluctuations. This results in budgeting challenges when planning for levels of service. In addition, some routes occasionally experience peak ridership that exceeds capacity. LTD is in the process of developing a long range transit plan that, among other things, will determine the level of community service that LTD can sustain in the long term. During the 2011 State legislative session State funding was cut for the popular Student Transit Pass program that provided bus passes for over 24,500 6th-12th grade students in the LTD service area. Below is a chart of LTD ridership statistics indicating a significant increase in bus ridership over the past five years. During the same period service levels have flattened out due to budget constraints.

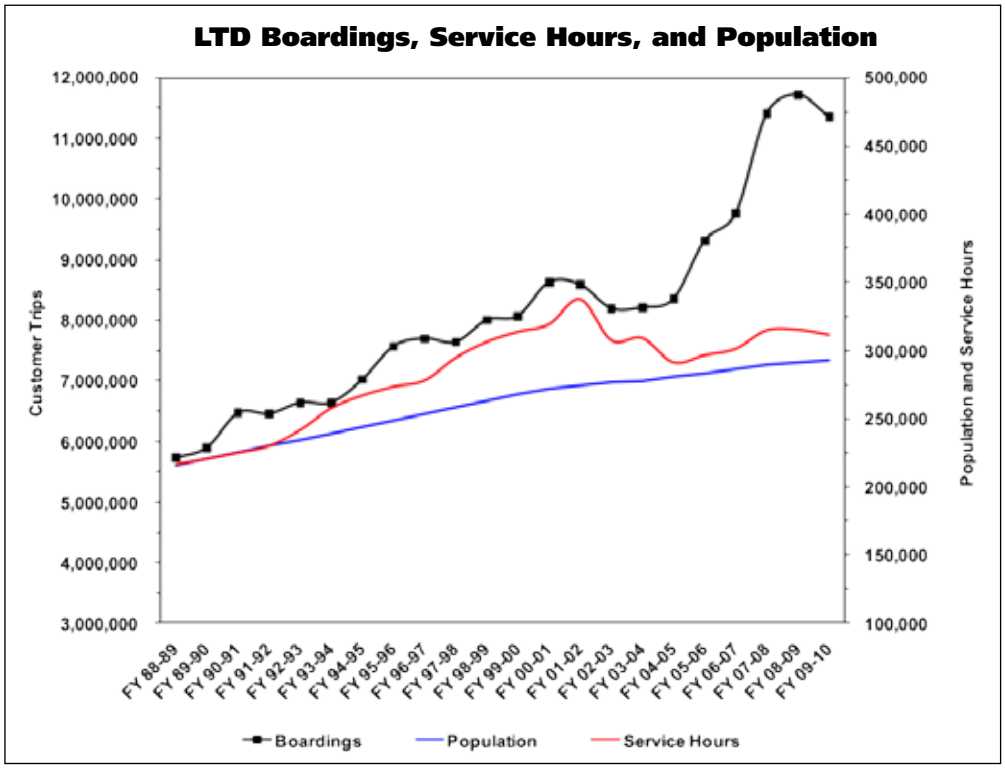

Chart 11, courtesy of Point2point Solutions

14.2. Align City of Eugene Transportation System Plan and LTD's long-range transit plan to integrate bus routes into the broader alternative transportation system.

Status 2010	The City and LTD both use TransPlan as guides for their transportation planning policy.
Status 2011	The City of Eugene is updating TransPlan with a city of Eugene-only Transportation System Plan (TSP). Lane Council of Governments (LCOG) will prepare a Regional Transportation System Plan, and Lane Transit District (LTD) is preparing a Long Range Transit Plan. LTD staff provide technical assistance to the Eugene Transportation System Plan and City of Eugene staff provide technical assistance to LTD's planning effort. The LTD plan will inform the transit element of the Eugene Transportation System Plan, and Eugene's Transportation System Plan will inform the Regional Transportation System Plan developed by LCOG. Therefore, the plans will be integrated and consistent upon completion. The Transportation System Plan will primarily address the Bus Rapid Transit routes and policy basis for transit planning and will be less likely to address planning for specific local bus routes. EMX service intentionally connects to bike routes and multi-use paths and multimodal system upgrades and connections are made at the time of construction. Construction of the Gateway EMX route in Springfield included multiple improvements to the nearby bicycle and pedestrian facilities.

14.2a) Partner with LTD to help inform service changes and improvements.

14.2b) Create special setbacks along future Bus Rapid Transit (BRT) or other mass transit corridors to accommodate future right-of-way expansion.

Status 2011	Methods for accommodating Bus Rapid Transit on the W. 11th corridor were discussed at a City Council work session in summer, 2010. Eugene City Council moved to direct staff to proceed with amending the Street Right of Way Map for West 11th Avenue to allow for future improvements to that street. This effort is currently moving forward in conjunction with Envision Eugene as well as ongoing LTD work on the W. 11th EmX Extension project.

14.2c) Determine the role of mass transit in accomplishing greenhouse gas emission reduction goals by working with LTD in developing the Long Range Transit Plan.

Status 2010	The City of Eugene and LTD both use TransPlan as a guide for their transportation planning policy. TransPlan does not specifically address greenhouse gas emissions.
Status 2011	Transit- related greenhouse gas emissions will depend on many factors including ridership, land use, future EmX routes, and vehicle technology. Eugene is currently in the process of developing a Eugene-specific Transportation System Plan (TSP). Greenhouse gas emissions and the ability of transportation systems to remain resilient to potential changes in climate is emerging as an issue to be addressed in the Eugene TSP. The Eugene TSP program will be able to compare alternative transportation strategies, but the basic tools for measurement are not yet developed. The City of Eugene lacks the land use projections necessary for more precise predictions at this time. The Oregon Sustainable Transportation initiative is developing tools for measuring greenhouse gas reduction strategies in all Oregon Metropolitan Planning Organizations (MPOs), but these are not expected to be ready for use in this region until after the TSP is completed.

14.3. Invest in transit infrastructure that meets future access and mobility needs while consuming less fossil fuel.

14.3a) Maximize electrification of the regional mass transit systems.

Status 2011	Transitioning all LTD vehicles to a fully electrified system would be expensive. At the same time, because LTD is relatively small, maintaining and operating buses with a variety of propulsion systems (hybrid, all electric, all diesel) would not be feasible because of the additional tools, maintenance skills, vehicles, and infrastructure that would be required. Rising fuel prices are driving LTD conversion to hybrid vehicles (see below) and are likely to ultimately drive a shift toward an electrified fleet.

14.3b) Increase use of hybrid vehicles including buses and other heavy vehicles.

Status 2010	21 of 104 buses (20%) in Lane Transit District's fleet were hybrid in 2010.
Status 2011	LTD will add 24 more hybrid buses to its fleet in 2012. Once delivered, 43% of Lane Transit District's active fleet will be hybrid electric. The latest purchase of hybrid-electric buses is providing a 39% increase in fuel economy resulting in approximately 6,000 gallons of diesel saved in the first six months.

15.1. Increase promotion of bicycling, walking, mass transit, carpooling, telecommuting, high-occupancy vehicles, and emergency ride home programs as attractive alternatives to driving.

Status 2010	Point2point solutions, City of Eugene Transportation Planning, Safe routes to school, Lane Transit District (LTD), and Greater Eugene Area Riders (GEARs) all promote alternatives to driving through outreach efforts, programs, and events.
Status 2011	The Business Commute Challenge is an outreach program that incentivizes employees to commute to work for a week using a mode other than driving to work alone. Participation in this program has grown over the last few years.

Figure 1: 2011 Business Commute Challenge Statistics – Table courtesy Point2point Solutions

Year	2009	2010	2011
Registrants			
Total Registrants	1,173	2,246	2,329
Total 1st Time Registrants	n/a	1,086	1,308
Miles	45,976	63,904	92,958
Modes			
EmX Miles	n/a	n/a	3,507
Bike Miles	16,135	16,331	26,564
Bus Miles	9,132	13,007	13,803
Carpool Miles	17,771	23,024	31,372
Walk Miles	1,156	1,902	2,832
Telecommute	1,608	8,914	13,877
Other	174	726	1,003
Totals	45,976	63,904	92,958

15.2. Increase the community's understanding of fuel-efficient driving techniques.

Status 2010	Point2point Solutions trains Climate Masters students on fuel efficient driving techniques and transportation options in the region. Students go on to share that information with the general public when doing community outreach activities. In 2010, 18 Climate Masters students received this training.
Status 2011	15 Climate Masters students received training on fuel-efficient driving techniques in 2011.

16.1. Plan for efficient freight transportation that minimizes greenhouse gas emissions and fossil fuel consumption, and accomplishes the following:

16.1a) Connects multiple modes—train, truck, van, car, bicycle. 16.1b) Accommodates upper Willamette Valley commercial, industrial and agricultural freight needs. 16.1c) Facilitates efficient local deliveries.

Status 2010	TransPlan provides the City of Eugene's transportation planning policies. TransPlan does not specifically address greenhouse gas emissions. Policies regarding freight include: TSI Policy #1 - Support reasonable and reliable travel times for freight/goods movement in the Eugene-Springfield region. TSI Policy #2 - Develop or promote intermodal linkages for connectivity and ease of transfer among all transportation modes.
Status 2011	The City of Eugene is updating TransPlan with a City of Eugene-only Transportation System Plan (TSP) and Lane Council of Governments (LCOG) will prepare a Regional Transportation System Plan. Freight movement will be an element of the new TSP, but policies have not yet been developed. The new Oregon Freight Plan will provide guidance.

17.1. Accelerate the transition to plug-in hybrids and electric vehicles. Partner with Lane County, EWEB, auto retailers, electrical contractors, UO, LCC, and others.

17.1a) Support the installation of a network of electric car charging stations.

Status 2010	Eugene was selected to be one of 18 cities nationally to participate in a pilot project to install electric vehicle charging stations.
Status 2011	The City of Eugene has been working with ECOtality, the company leading the federally funded EV (electric vehicle) Project, to find optimum locations for electric vehicle charging stations on City owned property. Because of high costs to retrofit private parking lots with car charging stations, progress on installing charging stations on commercial property has been slower than expected. Installations on City of Eugene properties are currently being scheduled.

17.1b) Require installation of electric car charging stations (or conduit to support installation of future car charging stations) in new multifamily housing.

Status 2011	There has been no change in building codes making this a requirement in new multi-family housing, and the City cannot require more restrictive building, electrical, plumbing and mechanical codes.

17.2. Conduct research to understand what role biofuels can play in decreasing Eugene's vulnerability to energy markets. Work with partners at LTD, the Oregon Department of Energy, etc.

Status 2011	No progress to report

CONSUMPTION AND WASTE

18.1. Educate businesses and residents about the important role of consumption in creating greenhouse gas emissions. Focus on encouraging the purchase of durable, repairable and reusable goods; reducing the amount of materials that go to waste (including food); reducing consumption of carbon-intensive consumer goods and services.

Status 2010	The Climate Masters program educates participants about the importance of reducing waste to reduce greenhouse gas emissions. The BRING ReThink program reaches out to business owners to encourage waste reduction. The City of Eugene had no formal program to specifically inform businesses and residents about the connection between consumption and greenhouse gas emissions. Lane County Master Recyclers program teaches participants about recycling. After completing the program "Master Recyclers" go on to conduct community outreach activities including education and recycling in all of Lane County. Between 2007 and 2009 the program reported an average of 2630 waste prevention and recycling education volunteer hours per year. In 2010 nearly 3500 hours were reported.
Status 2011	In August 2011, the City of Eugene began working with an ad hoc advisory team and experienced consultant to create a climate communications public outreach campaign. Initial work will focus on consumption and the relationship to greenhouse gas emissions. A A recommended communication strategy and final report are expected by December 2011.

18.2. Lobby at the state level for better product labeling that includes information about greenhouse gas emissions associated with products.

Status 2011	No progress to report

18.3. Provide information for the public on when to replace high energy-use appliances such as refrigerators, dishwashers, and water heaters. Where this information is already available, increase its distribution and accessibility.

Status 2011	BRING recycling operates a RE:think program that began in 2009 and assists business owners in reducing energy use, water use, and waste generation. Among other things, the program helps business owners decide when it's appropriate to upgrade inefficient appliances such as refrigerators and air conditioners.

18.4. Actively support new state and national product stewardship legislation that requires producers to be involved in end-of product-life management, either through product design changes (e.g. compostable snack bags), investing in take back programs (e.g. Oregon E-cycles), or placing a fee on the sale of products to support diversion (e.g. Oregon Bottle Bill).

Status 2011	The City of Eugene supports product stewardship legislation as it comes up in state legislative sessions. No new product stewardship laws were passed in the 2011 legislative session.

19.1. Target expanded recycling outreach and services to commercial and multi-family residential building owners and occupants, including local businesses, apartment buildings, and student and cooperative housing.

Status 2010	BRING recycling operates a RE:think program that began in 2009. Between March 2010 to December 2010 the program helped 34 business owners reduce energy use, water use, and waste.
Status 2011	From January to August 2011, BRING's Re:Think program helped 33 business owners reduce energy use, water use, and waste. Multifamily residential building owners and occupants, apartment buildings, and student and cooperative housing are not targets of this program.

19.2. Enact a local ordinance to increase waste recovery rates from commercial and multi-family buildings.

Status 2011	No significant change

19.3. Assist businesses in improving paper, metal and glass recycling with a goal of supporting 5 percent of the community's businesses each year. Aid partners by promoting events or trainings, providing space for trainings, assisting with funding, etc.

Status 2010	BRING recycling operates a RE:think program that began in 2009. Between March 2010 to December 2010 the program helped 34 business owners reduce energy use, water use, and waste.
Status 2011	From January to August 2011, BRING's Re:Think program helped 33 business owners reduce energy use, water use, and waste. The program suggests changes in business practices to reduce paper use, substitute disposables with the purchase of durable goods (water bottles and hand towels for example), and purchase goods that are non-toxic and contain recycled content.

19.4. Enact an ordinance that requires all construction and demolition waste materials to be sorted for reusable or recyclable materials.

Status 2011	The City of Eugene is developing a comprehensive construction waste management program that will increase the rate of material diverted from the landfill and increase the opportunities for beneficial uses of reclaimed materials.

20.1. Establish a permitted facility within the Eugene/Springfield area that can accept and compost (or anerobically digest) all organic materials including food wastes.

Status 2010	In 2010 there were no permitted facilities in the Eugene/Springfield area that could accept and compost food waste.
Status 2011	In spring 2011 the Oregon Department of Environmental Quality approved permits for two commercial composting businesses in Eugene to begin composting food waste.

20.1a) Develop a collection program and rate structure to support food waste collection.

Status 2011	The City of Eugene is developing the rate structure to support commercial food waste collection. Commercial food waste collection is expected to begin in Eugene in fall 2011.

20.2. Conduct a pilot project at the River Avenue Waste Water Treatment Plant to determine the system ability to co-digest food waste and biosolids to generate electricity.

Status 2011	No significant change

21.1. Follow research being conducted by 1) the EPA's West Coast Forum on Climate Change and Materials Management, 2) Action Item recommendations from the Materials Management subcommittee of the Oregon Governor's Global Warming Committee's Roadmap 2020 plan, and 3) Oregon Department of Environmental Quality systems-based GHG inventory, to determine highest priority and most cost effective measures to address GHG production in the materials management sector.

Status 2011	City of Eugene staff have been actively involved in EPA's West Coast Forum on Climate Change and Materials Management and the Materials Management subcommittee of the Oregon Governor's Global Warming Committee's Roadmap 2020 plan. Staff continue to seek information from Oregon DEQ greenhouse gas inventory work.

21.2. Determine the greenhouse gas emissions profile from the current solid waste collection system and provide recommendations on how to reduce carbon emissions within the system.

Status 2011	A solid waste system review slated for 2012 will directly address this recommendation.

22.1. Increase the effectiveness of current City of Eugene purchasing policies that prioritize: 1) Reuse of products and materials, 2) purchasing durable goods, and 3) avoiding disposable goods whenever possible. Implement the following steps: 22.1a) Set targets for these procurement policies. 22.1b) Identify measurements to monitor the impacts of these procurement policies. 22.1c) Increase efforts to implement these purchasing policies throughout the organization.

Status 2010	In 2010 the City continued to implement sustainable procurement policies incorporated by administrative rule. This included the roll out of weighted sustainability criteria in requests for proposals. The City continues to reduce purchases in general and completely discontinued the purchase of bottled water (in cooler form) in City offices. The Purchasing Office shifted work amongst existing employees in order to create capacity for additional work on sustainable procurement efforts. Purchasing Analysts worked with internal customers and vendors to start educating both parties on the City's sustainable procurement policy. These efforts included one on one meetings and analyzing individual purchases to determine if there were alternate methods or products available that were more closely aligned with sustainable procurement policies.
Status 2011	City of Eugene finance staff are updating financial procedures that will include guidelines and tools for departments to better incorporate sustainability principles and practices in the expenditure of City funds. Purchasing staff continue to focus on sustainability in procurement. Current efforts include setting targets and reviewing procurement policies for potential updates. In order to improve practices, procurement staff will create educational tools and begin core purchasing trainings in 2012 to educate staff about sustainable procurement practices. Finally, Purchasing staff are researching the best methods to monitor the impacts of modified procurement policies.

22.2. Encourage other local public agencies to prioritize: Reuse of products and materials, purchasing durable goods, and avoiding disposable goods whenever possible.

Status 2011	No significant change

22.3. Reduce public agency purchase of greenhouse gas-intensive goods by 2014. 22.3a) Identify City-purchased goods (either directly or through contracts) with the highest associated life cycle greenhouse gas emissions by 2012. 22.3b) Create a plan to reduce purchase of the 5 goods that have both the most greenhouse gas intensive life cycles, and the highest rates of purchase. 22.3c) Annually report the quantity of these goods being purchased.

Status 2010	The City's existing greenhouse gas emissions inventory for internal operations included an analysis of the estimated emissions associated with city-purchased goods conducted in 2007. That partial analysis estimated total embodied emissions from goods purchased at 18,120 metric tons of CO2 equivalent. While a formal process to reduce the purchase of the City's most greenhouse gas-intensive goods had not been established, some City staff began adjusting purchasing habits immediately. For example, City of Eugene Public Works Engineering staff began requiring contractors to use warm mix asphalt rather than hot mix due to improved energy efficiencies and reduced emissions. Purchasing staff began work to identify other ways to carry this goal forward.
Status 2011	City of Eugene staff are conducting an updated internal greenhouse gas inventory based on 2010 data which should help identify the most greenhouse gas-intensive purchases. The updated inventory is expected to be completed in fall 2011. The first annual report for the most greenhouse gas intensive purchases is scheduled for completion in 2012.

22.4. Implement steps outlined in the City waste reduction plan to reduce waste at City buildings, events, and ongoing operations.

Status 2010	In 2009 staff began work on an internal zero waste project that would reduce solid waste generated from City of Eugene municipal operations. The project ran into challenges and stalled in 2010.
Status 2011	With renewed investment from the City of Eugene Waste Prevention and Green Building program, the Internal Zero Waste project is actively moving forward. A team of 20 staff from across departments are working together to inventory wastes, identify successful strategies to reduce waste, and develop a new waste hauling contract that will aid the City in its waste reduction goals. The new contract will provide crucial waste generation data that will help the City prioritize actions by focusing on the areas where the greatest improvements can be made.

22.4a) Continue to monitor the waste stream from internal operations in order to measure progress.

Status 2011	The Internal Zero Waste staff team is developing a new waste hauling contract that will require the waste hauler to measure and report the amount of waste generated and recycled. This new contract will be operating in winter of 2011/2012.

HEALTH AND SOCIAL SERVICES

23.1. Conduct a climate and energy vulnerability assessment that assesses the mid-term, and longer-term climate and energy vulnerabilities of essential services – specifically energy, water, food, health, housing, and sanitation.

Status 2010	The City of Eugene and regional partners maintain Natural Hazards Mitigation Plans that address several emergencies that are expected to be influenced by climate change including storm events, wildfires, and flooding.
Status 2011	In an effort to produce more comprehensive, coordinated, and complete plans with consistent assessments of vulnerabilities, the City of Eugene is examining its Natural Hazards Mitigation Plan, Climate and Energy Action Plan, and Comprehensive Land Use Plan to identify and resolve any inconsistencies. This is a first step toward conducting a climate and energy vulnerability assessment.

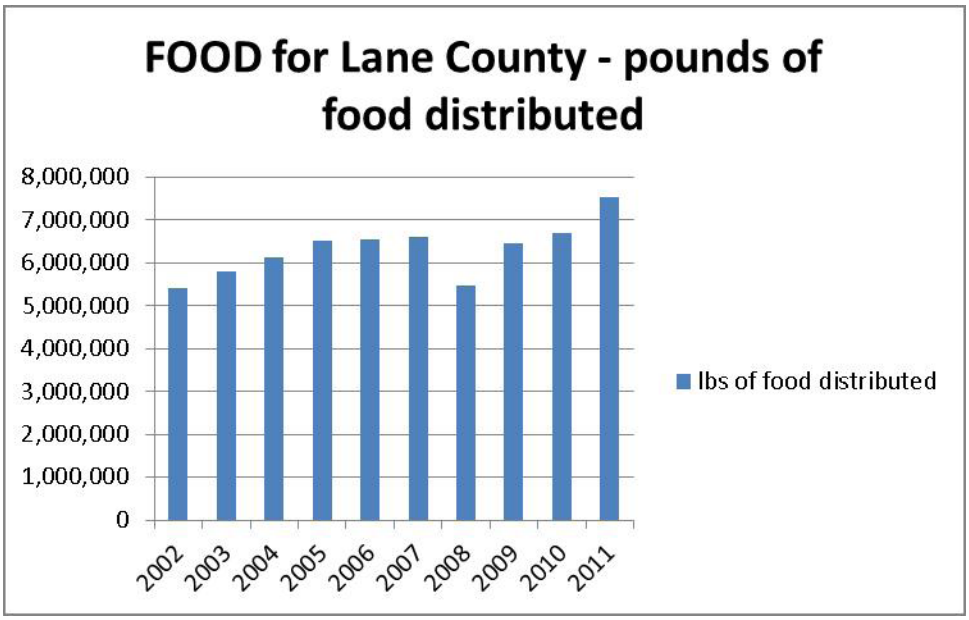

Chart 12

23.2. Strengthen current hunger relief systems to handle increased short-term and long-term demand.

Status 2011	Demand for food at the partner agencies of FOOD for Lane County (FFLC) is up over last year, across the board for all types of programs. There was an 8% increase in the number of people accessing food boxes, the largest increase in seven years. FOOD for Lane County collected and distributed a record 7.7 million pounds of food to support this increase. At the national level, the supply of commodities provided by the United States Department of Agriculture, currently making up 23% of FFLC inventory, is anticipated to decline. The national association of food banks plans to make up the decline with fresh produce.

23.2a) Conduct analysis to project future demand for hunger relief services. This could be conducted as part of the vulnerability assessment (above).

Status 2011	See 23.1, above.

23.2b) If analysis (a) suggests need, develop plans to prepare for increased food demand from a higher percentage of the population by partnering with the local food bank.

Status 2011	See 23.1, above.

23.2c) Identify and remove barriers to, and encourage, development of homegrown food sources such as backyard and community gardens, urban food orchards, etc.

Status 2011	See update in Food and Agriculture section – action 9.3

23.3. Increase financial assistance for low-income populations to support energy efficiency home retrofits that reduce the costs for utility service.

Status 2011	Over the last year funding provided by Energy Efficiency Conservation Block Grant (EECBG), Housing and Community Services Agency (HACSA) & Eugene Water and Electric Board (EWEB) resulted in energy efficiency retrofits of 6 affordable housing projects with a total of 160 residential units. A City of Eugene staff group has convened to focus on priority actions from the Climate and Energy Action Plan. Among other tasks, this group is investigating strategies to assist low income and renters specifically in conducting energy efficiency retrofits. Successes in Portland are providing some insight on strategies.

23.4. Conduct a food security assessment, as outlined in the Food and Agriculture section and take action to increase security of the community's food supply.

Status 2011	See update in Food and Agriculture section – action 8.1b

24.1. Reduce risk of home fires due to wildfires in and around the urban area.

Status 2010	The City of Eugene has been proactive in reducing the risk of wildfire in its many forested Parks and Open Space properties in the south hills of Eugene. Over the past three years crews with the Oregon Youth Conservation Corps (OYCC) funded by federal stimulus dollars, have done extensive work in numerous Parks and Open Space properties removing the small diameter trees and underbrush. Often referred to as ladder fuels, these small woody plants allow a small ground fire to "climb" up into a forest canopy where the fire becomes more dangerous. Park properties that have had vegetation removed to reduce risk of fire include Wild Iris Ridge, Moon Mountain, Blanton Ridge, and Murray Hill. During the past three years the City of Eugene and Long Tom Watershed Council, with funding from Oregon Watershed Enhancement Board have conducted habitat restoration work at Wild Iris Ridge including the removal of pine trees, blackberry brambles and Scott's broom. In addition to improving habitat, this work has removed some of the woody plants that would provide fuel for a wildfire.
Status 2011	The City of Eugene has completed an assessment on all City-owned Ridgeline properties to determine the amount of vegetation that could be fuel for fires. The assessment will be field tested by Oregon Dept. of Forestry staff. City of Eugene Parks and Open Space and Fire and EMS will jointly apply for FEMA grant funding to conduct tree and shrub removal within City owned Ridgeline properties in order to reduce the risk of fire. Initial scoping for the project identified over $1M of work to be done. This pre-disaster mitigation grant would reduce fuel loading (excessive buildup of trees and shrubs) to protect residences, electricity transmission lines, communication towers and water reservoirs.

24.1a) Increase efforts to educate homeowners about creating defensible space around their homes.

Status 2010	The Firewise Incentive Program operated by Lane County provides grant funding for homeowners to do both landscaping and structural improvements to their properties in order to reduce the risk of wildfires leading to house fires. More information at: http://www.lanecounty.org/Departments/PW/LMD/Firewise/Pages/default.aspx
Status 2011	The City of Eugene is seeking grant funds to increase the amount of outreach being conducted through Firewise, a program to communicate to residents about methods to make their homes fire resistant. The outreach would be focused on the 200-plus properties including homes, Parks and Open Space property, Nature Conservancy properties, Bonneville Power Administration infrastructure, and private timberland properties, within the 2000 acres of the Ridgeline project area.

24.2. Ensure essential services are not located within the 100-year flood zone. 24.2a) Identify essential emergency and non-emergency services that are located in flood zones or that could be isolated by flooding. 24.2b) Develop a plan to move essential services out of the flood zone and/or decrease their vulnerability to flood damage and flood isolation.

Status 2010	Existing maps plot Eugene flood zones and most essential services: http://www.eugene-or.gov/portal/server.pt?open=512&objID=726&PageID=3695&cached=true&mode=2&userID=2 These maps will be revised to incorporate up-to-date information on facilities for essential services and when FEMA provides updated flood maps
Status 2011	No specific work has been done to develop a plan to move essential services out of the flood zone.

25.1. Educate the public and health professionals about health risks posed by climate change.

Status 2011	As of spring 2011, Lane County Health Department has been part of a professional networking site managed by the Oregon Health Authority and The Resource Innovation Group's Climate Leadership Initiative that provides updated on climate related health risks, relevant climate modeling data, news, resources and strategies for managing health impacts. Lane County Health Department staff, City of Eugene staff and the Oregon Health Authority liaison for Lane County attended public health and climate change trainings in the spring of 2011 that provided an overview of climate related impacts to public health and emergency preparedness, including opportunities for action and resources for implementing climate preparedness strategies.

25.2. Prioritize local public health resources to emphasize educating the public, staff, and administration about climate change, energy price volatility and the related system impacts and health risks.

Status 2011	No significant change

25.3. Develop a climate change preparation strategy for the public health system.

Status 2011	Lane County Health Department was unable to pursue a grant opportunity with Oregon Health Authority on building climate change capacity due to financial and staffing constraints, but will have an opportunity to learn from the outputs of grant awardees such as Benton County.

URBAN NATURAL RESOURCES

26.1. Increase funding for public acquisitions of property to facilitate the combined goals of stormwater management, flood abatement, stream shading, headwaters protection and increased connectivity between wildlife corridors. Some priorities for property acquisition are outlined in the Ridgeline Vision and Action Plan, the Willamette River Vision Plan, and the Metro Waterways Plan.

Status 2010	At the local level, the City of Eugene has access to funds from the 2006 Parks, Recreation, and Open Space (PROS) bond measure, of which $5.75 million was identified for ridgeline park acquisitions and $2 million for Willamette River acquisition. (As of September 2011, all of the ridgeline funds have been spent but all of the Willamette River funding is still available). Property acquisitions in 2010 include the purchase of approximately 315 acres addition to Suzanne Arlie Park. Another regular local source of funding for acquisition is the Stormwater User Fee, of which $150,000 annually is dedicated to acquisition of stream corridors.
Status 2011	At the state level, the City has successfully competed for land acquisition grants from the Oregon Watershed Enhancement Board (OWEB). In September, 2011, The City of Eugene anticipates a $750,000 grant award from OWEB to help purchase 193 acres of Ridgeline property west of Spencer Butte Park. There are also multiple federal funding sources available for land acquisitions and the City has been successful in receiving funds from these sources in the past. In general, all of the state and federal grant sources have less funding available in 2011 compared to previous years because of funding shortfalls at all levels of government.

26.2. Update urban forestry management plans to promote urban forest management on a city-wide scale, expanding beyond individual lots or streets.

Status 2011	No changes to report

26.3. Identify and remove barriers, including City code, that may discourage or prevent use of Low Impact Development (LID) practices during construction on public and private property.

Status 2010	The City Stormwater Development Standards continue to be implemented through the adoption of the City Stormwater Management Manual and Stormwater Ordinance (Ordinance No. 20369). Low Impact Development principles are included within the manual and continue to be chosen as a stormwater treatment option by many applicants that are required to meet Stormwater Development Standards.
Status 2011	In 2010 City staff updated the City's Stormwater Management Manual (adoption pending). The manual revisions remove some barriers to LID. City staff designed and constructed multiple capital transportation improvement projects which incorporated LID strategies in both 2010 and 2011. The City has received a new National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System Discharge Permit that requires staff to identify, and where practicable, minimize or eliminate barriers to LID.

27.1. Compile and maintain an inventory of urban natural resources that is current and accessible to the public and policy-makers.

Status 2011	Compiling and maintaining an inventory of urban natural resources that would be current and accessible to the public and policy-makers is an important goal that has yet to be realized. At the present time, there are a limited number of specific Parks and Open Space natural areas within Eugene including Delta Ponds, Wild Iris Ridge, and Coyote Prairie, that have well developed management plans and monitoring programs where there is fairly detailed information about natural resources on site. However, even for these sites, the information is not yet readily available to the public or policy-makers.

28 .1. Plan for increased fires in the forests surrounding the urban area.

Status 2011	See Health and Social Services 24.1

28.1a) Re-examine urban forest management policies to ensure that focus is placed on reducing susceptibility to the likely increase in wildfires.

Status 2011	For progress on urban forest management within Parks and Open Space forested properties, see Health and Social Services section 24.1.

29.1. Provide educational resources to students, teachers, residents, and businesses about the benefits of trees, watershed health, and water quality.

Status 2010	Eugene Tree Foundation provides education about stewardship, trees, habitat, cultural history, and the urban forest during many of their stewardship and volunteer activities. In 2010, Eugene Tree Foundation hosted 50 events, work parties, tree plantings, outreach events, and trainings harnessing over 1,300 hours of volunteer time. The City of Eugene Parks and Open Space division and Eugene Tree Foundation collaborated to plant 155 neighborhood street and yard trees and 576 native Green Space Initiative trees.
Status 2011	So far in 2011, Eugene Tree Foundation has hosted 38 events including 28 work parties, planting 75 trees native trees and 33 street trees. Eugene Tree Foundation volunteers have donated over 2000 volunteer hours in just the last 12 months.

30.1. Manage stormwater and riparian areas to meet multiple goals: improved water quality, lowered stream temperatures, increased infiltration, increased capacity, and improved native plant and wildlife habitat.

Status 2010	The City of Eugene Parks and Open Space Division manages wetlands and waterways to improve stormwater quality and riparian habitat. In 2010, a final connection was made between the Willamette River and Delta Ponds when a culvert was constructed under Goodpasture Island Road. This reconnection to the river not only provides overwintering habitat for juvenile Chinook salmon, but also improves water quality in the ponds through annual flushing, lowers average annual temperatures by allowing cold river water through the ponds, and increases floodplain capacity. In 2010, five acres of gradually sloping riparian benches were constructed to replace the steep sided banks left behind by gravel mining activities in the 1950s & 60s. More information is available at www.eugene-or.gov/deltaponds In 2010 a remnant slough adjacent to the Willamette River between Merry Lane and Copping Street was excavated and planted with over 15,000 native trees shrubs, sedges and rushes, creating year round backwater habitat for native fish and other wildlife. In 2011, this enhanced slough was connected with the pond at Merry Lane to facilitate connection to the river allowing the river to flow through the system during the wet months of the year. In 2010, approximately 870 new trees were planted along Amazon Creek, the Roosevelt channel, and the A-3 channel to increase shading, improve infiltration, and to enhance plant and wildlife habitat. In addition, over 937 riparian trees planted in previous years were watered and maintained along other reaches of Amazon Creek. Willow cuttings were planted at the base of the slope on approximately 6,000 linear feet of Amazon Creek banks. In addition to providing shade and habitat, willows are important is stabilizing the stream banks.
Status 2011	In the spring of 2011 over 30,000 native trees shrubs, sedges and rushes were planted on the new riparian benches and adjacent lands at Delta Ponds to further improve plant and wildlife habitat. City of Eugene Parks and Open Space staff continue to stabilize creek and channel banks to prevent erosion and manage vegetation along urban waterways in order to shade streams and maintain stream conveyance. Additional trees will be planted along the banks of Amazon creek in fall 2011.

30.2. Develop a program to encourage onsite treatment of stormwater from existing buildings and facilities.

Status 2011	In 2010 City staff updated the City's Stormwater Management Manual (adoption pending). The revisions incorporate a section for retrofitting existing stormwater facilities to provide treatment of runoff from existing impervious surfaces.

30.2a) Identify incentives to encourage property owners to retrofit existing structures and facilities.

Status 2011	No changes to report

31.1. Increase planting, preservation, and maintenance of trees and shrubs.

31.1a) Build on existing initiatives and partnerships.

Status 2011	In 2010 and 2011 Eugene Tree Foundation, now Friends of Trees, has reorganized volunteer programs in an effort to address to budget challenges and to provide a better mix of incentives and garner greater investment in the stewardship of urban trees from homeowners and community volunteers.

31.1b) Seek additional financial and volunteer resources.

Status 2011	The City of Eugene recently filled a long-standing vacancy in Urban Forestry Operations, bringing the number of full time field arborists on staff to four. City of Eugene urban forestry staff estimate that several thousand more trees are receiving care each year compared to just two years ago. The City of Eugene has increased collaborations with community groups, such as WOW hall, where interested community members have agreed to help with the increased costs related to advanced diagnostics and tree care necessary to manage a diseased tree. Finally, City staff are creatively managing tree/sidewalk conflicts, such as the big Elm on the east side of the 1300 block of Patterson, in an effort to retain existing trees by working around the roots rather than resorting to tree removal.

31.1c) Plant a diversity of species, including species native to the Willamette Valley, to increase the percentage of survivors under changing conditions.

Status 2010	In FY10, the City of Eugene planted 840 trees in the public right of way. This does not include trees planted in parks.
Status 2011	In FY11, the City of Eugene planted 638 trees in the public right of way spending $39,908. This does not include trees planted in parks. Note: many of these trees are planted when new homes are built in new sub divisions so the reduction in numbers of trees planted in the right of way is largely a reflection of the reduced rate of development.

31.2. Control invasive species, such as English ivy, on City and County parks in order to maintain the health of existing urban area native habitats.

Status 2010	The Natural Resources Section of the Parks and Open Space Division manages most of the undeveloped open space in the City's park system and has purview over the majority of invasive species on City park land. Staff survey park land and map invasive species, and prioritize and treat invasive species populations as funding allows. In 2010, the Parks and Open Space Division adopted an Integrated Pest Management Plan that guides invasive species management efforts. The plan outlines a decision-making process for determining the most appropriate approach to managing invasive species in each type of park and open space area.
Status 2011	Early detection of invasive species and protection of high quality natural areas is the highest priority. In lower quality areas, the Division seeks capital improvement projects to restore lands to a higher quality. Examples of restoration in 2010 and 2011 include the Delta Ponds Habitat Enhancement project, the East Phase of the Coyote Prairie North Mitigation Bank, and the Mariposa Woodland Pine-Oak Habitat Enhancement project. In addition, the Division coordinates with both the Upper Willamette Weed Management Cooperative and the Rivers to Ridges Field Operations Group to collaborate on invasive species detection and treatment.

31.3. Create incentives to encourage residents and businesses to plant trees.

Status 2011	No change to report

32.1. Increase existing water conservation education and water quality initiatives as outlined in the Buildings and Energy section. (See buildings and energy section 4.2)

33.1. Strengthen and expand protections to maintain surface water quality and prevent the contamination of shallow wells.

Status 2011	No change to report

Glossary

Adaptation: An adjustment in natural or human systems to a new or changing environment. Adaptation to climate change refers to adjustments in response to actual or expected climatic stimuli or their effects, which lessens harm or exploits beneficial opportunities. Various types of adaptation include anticipatory and reactive, private and public, and autonomous and planned.

Albedo: The amount of solar radiation reflected by a surface or object. Snow-covered surfaces have a high albedo; the albedo of soils ranges from high to low; and vegetation- covered surfaces and oceans have a low albedo.

Architecture 2030: A non-profit, non-partisan and independent organization established in response to the global-warming crisis by architect Edward Mazria in 2002. The mission is to rapidly transform the US and global Building Sector from the major contributor of greenhouse gas emissions to a central part of the solution to the global-warming crisis. (Description from website: www.architecture2030.org). Find more detail about Architecture 2030 and proposed targets in Appendix 11

Biofuel: A fuel produced from dry organic matter or from combustible oils produced by plants. Examples include alcohol from fermented sugar, black liquor from the paper manufacturing process, wood, and soybean oil.

Biomass: When referring to fuel, biomass is a plant-derived fuel from clean and untreated wood such as brush, stumps, lumber ends and trimmings, wood pallets, bark, wood chips or pellets, shavings, sawdust and slash, agricultural crops, biogas, or liquid biofuels, but excludes materials derived in whole or part from construction and demolition debris.

Bioswale: A vegetated depression that can temporarily store stormwater, reduce flooding, cleaning water, and encourage infiltration.

Bus Rapid Transit (BRT): A system that emulates the efficiencies and operations of light-rail at a fraction of the costs. Attributes of a BRT system:

> Exclusive right-of-way—guarantees travel time; Signal priority—gives buses priority through intersections; Level boarding—makes boarding easier and quicker; Off-Board Fare Collection—negates fumbling with change and allows boarding at all doors; Less frequent stops—improves travel time; Improved stations—offers station amenities for passenger comfort; and Park & Ride connections—improves Vehicle Image (Source: Lane Transit District)

Carbon dioxide (CO2): The major heat-trapping gas whose atmospheric concentration is being increased by human activities. It also serves as the yardstick for all other greenhouse gases. The major source of CO2 emissions is fuel combustion, but they also result from clearing forests and burning biomass. Atmospheric concentrations of CO2 have been increasing at a rate of about 0.5 percent a year, and are now more than 30 percent above pre-industrial levels.

Carbon intensity: The amount of carbon emitted for each unit of energy consumed.

Carbon neutral (also climate neutral): When greenhouse gas emissions are net zero. A building is carbon neutral when it doesn't generate more greenhouse gas emissions than it sequesters. This can also be accomplished by "offsetting" emissions with "carbon credits."

Carbon sequestration: The uptake and storage of carbon. Trees and other plants, for example, absorb CO2, then release the oxygen while storing the carbon.

Carbon sinks: The processes or ecological systems that take in and store more carbon than they release. This process is called carbon sequestration. Forests and oceans are large carbon sinks.

Climate: The average state of the atmosphere including typical weather patterns for a particular region and time period (usually 30 years). Climate is the average, long-term weather pattern for a particular region, while weather describes the short-term state of the atmosphere. Climate measures average precipitation, temperature, wind, and seasonal phenomena such as length of the growing season.

Climate change: A significant change from one climatic condition to another, often used in reference to climate changes caused by the increase in heat-trapping gases since the end of the 19th century.

Climate feedback: An interaction mechanism between processes in the climate system that happens when an initial process triggers changes in a second process that in turn influences the initial one. A positive feedback intensifies the original process, and a negative feedback reduces it.

Climate model: A quantitative way of representing the interactions of the atmosphere, oceans, land surface, and ice.

Climate neutral: See carbon neutral

Climate refugees: People displaced from their homes or lands by significant changes in climate such as increased drought, sea level rise, or increased storm intensity.

Concentration: Amount of a chemical in a particular volume or weight of air, water, soil, or other medium. See also PPM (parts per million).

Cost-effective: A criterion that specifies that a technology or measure delivers a good or service at equal or lower cost than current practice, or the least-cost alternative for reaching a given target.

Community Scale Renewable Energy: A renewable energy system, photovoltaic for example, installed at a large scale: for example, over the roof of a large commercial building. Often this will include multiple investors paying for a single, large installation that will benefit many homes or businesses.

Cycletrack: A bike facility that uses the existing road network (unlike a multiuse path along the river, for example) and separates bike users from automobile traffic, often with a row of parked cars.

District energy: In this system, steam, hot water, chilled water, or electricity is produced in a central plant and distributed to multiple buildings in a defined area through underground pipes.

Earth Advantage: A third party, green building certification program for new homes, multi-family buildings, and neighborhoods. Pilot programs are also available for remodels and small commercial projects. Key areas addressed include energy efficiency, indoor air quality, environmental responsibility, and resource efficiency. For more information: http://www.earthadvantage.com

Ecosystem: Any natural unit of living and non-living parts that interact to produce a stable system through cyclic exchange of materials.

Embodied (greenhouse gas) Emissions: Greenhouse gas emissions associated with embodied energy (below)

Embodied energy: The total expenditure of energy involved in the creation of a product. This includes the energy to extract raw materials (lumber, iron, etc.), process, package, transport, install, and recycle or dispose of products.

Emissions: The release of a substance (usually a gas when referring to the subject of climate change) into the atmosphere.

Energy efficiency: Ratio of energy output of a conversion process or of a system to its energy input.

Energy intensity: Energy consumption per measure of demand for services; e.g., number of buildings, total floorspace, floorspace-hours, number of employees.

Energy Performance Score: A home energy rating system similar to the miles-per-gallon (MPG) rating for the auto industry that enables homebuyers to directly compare energy consumption between homes while offering a natural market incentive to upgrade their homes as much as possible.

Energy Trust of Oregon (ETO): A nonprofit organization that helps certain utility customers in the Pacific Northwest improve their energy efficiency and tap renewable sources. ETO was set up to administer public purpose funds that are collected from customers for new cost-effective conservation, new market transformation, and the above-market costs of new renewable energy resources. For more information: http://energytrust.org

Envision Eugene: The City of Eugene's process for creating a 20-year comprehensive plan that will shape land use in Eugene over the next decade or more. More information available at www.envisioneugene.org

EWEB: Eugene Water and Electric Board—Eugene's largest utility.

EPA: The United States Environmental Protection Agency.

EPUD: Emerald People's Utility District—Provides electricity to some Eugene residents and businesses.

Exposure: The nature and degree to which a system is exposed to significant climatic variations.

Foodshed: The area where food is grown, processed, delivered and consumed. A foodshed may be global or may be local—defined by a specific distance for example.

Fossil fuel: A general term for combustible geologic deposits of carbon in reduced (organic) form. Fossil fuels are of biological origin and include coal, oil, natural gas, oil shales and tar sands. A major concern is that they emit CO2 when burned, significantly enhancing the greenhouse effect.

GHG: Abbreviation for greenhouse gas. See definition for Greenhouse Gas below.

Generation: The process of making electricity. The term may also refer to energy supply.

Global Warming: An average increase in the temperature of the Earth's atmosphere, which can contribute to changes in global climate patterns. Global warming can occur from a variety of causes, both natural and human induced. In common usage, "global warming" often refers to the warming that can occur as a result of increased emissions of greenhouse gases from human activities. See climate change, greenhouse effect.

Greenhouse Effect: The thermal effect that results from heat-trapping gases allowing incoming solar radiation to pass through the Earth's atmosphere, but preventing most of the outgoing infrared radiation from the surface and lower atmosphere from escaping into outer space.

Greenhouse Gas: Commonly abbreviated GHG, a term used for gases that trap heat in the atmosphere. The principal greenhouse gases that enter the atmosphere as a result of human activity are carbon dioxide, methane, and nitrous oxide. Others include, but are not limited to, water vapor, chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), ozone (O3), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF6).

Greywater: Under Oregon law, greywater means wastewater from showers, baths, bathroom and kitchen sinks, and laundry. If handled properly, greywater can safely be reused for flushing toilets and urinals as well as for irrigation. Reuse of greywater reduces the demand on other sources of water, such as potable water, surface water, and groundwater.

IPCC: Intergovernmental Panel on Climate Change. Established in 1988, the IPCC assesses information in the scientific and technical literature related to all significant components of the issue of climate change. It draws on hundreds of the world's leading scientists to serve as authors, and thousands as reviewers. Key experts on climate change and the environmental, social and economic sciences from some 60 nations have helped the IPCC prepare periodic assessments of the scientific underpinnings of global climate change and its consequences. The IPCC is also looked to as the official advisory body to the world's governments on the state of the science of the climate change issue.

Impervious surface: Surfaces such as concrete, asphalt, and building roofs that don't allow water to penetrate. These surfaces collect and concentrate rainwater increasing the potential for water pollution and flooding.

Infill compatibility standards: A City of Eugene planning effort with a stated goal to create and adopt land use code standards and processes that (a) Prevent residential infill that would significantly threaten or diminish the stability, quality, positive character, livability or natural resources of residential neighborhoods; and (b) Encourage residential infill that would enhance the stability, quality, positive character, livability or natural resources of residential neighborhoods; and (c) if the goal stated in (a) is met, allow for increased density, a variety of housing types, affordable housing, and mixed-use development; and (d) Improve the appearance of buildings and landscapes.

Integrated design: a collaborative and holistic approach to building through which multiple disciplines and aspects of design—including architecture, lighting and electrical, HVAC, interior design, and landscape design—are considered together in the planning of a new structure or renovation to achieve a cost-effective, resource-efficient, and comfortable result. (Source: BetterBricks and the National Institute of Building Sciences)

Invasive species: An introduced species that invades natural habitats.

KWh: Kilowatt-hour. A measure of electricity use. The equivalent of energy needed to operate a 100 watt light bulb for 10 hours.

LCOG: Lane Council of Governments, a voluntary association of local governments in Lane County, Oregon. The agency is a regional planning, coordination, program-development, and service-delivery organization thathelps area cities, Lane County, educational districts, and special-purpose districts reach their common goals.

LTD: Lane Transit District

Land use: Human-determined arrangements, activities, and inputs undertaken in a certain land type, the social and economic purposes for which land is managed (e.g., grazing, timber extraction, and conservation).

Land-use change: A change in the use or management of land by humans, which may lead to a change in land cover. Land cover and land-use change may have an impact on the albedo, evapotranspiration, sources, and sinks of greenhouse gases, or other properties of the climate system, and may thus have an impact on climate, locally or globally.

Lifecycle (of goods): The complete life (of goods)—the mining or extraction of raw materials, the manufacturing processes, transportation, packaging, retail, the use of goods, and finally their disposal.

LEED: Leadership in Energy and Environmental Design, a program of the United States Green Building Council and a commonly used green building standard.

Methane (CH4): A hydrocarbon that is a heat-trapping gas carrying a global warming potential recently estimated at 24.5. Methane is produced through anaerobic (without oxygen) decomposition of waste in landfills, animal digestion, decomposition of animal wastes, production and distribution of natural gas and oil, coal production and incomplete combustion of fossil fuels.

Metric ton (Mt): Common measurement for the quantity of greenhouse gas emissions. A metric ton is equal to 2205 lbs or 1.1 short tons.

Mitigation: An intervention to reduce the sources or enhance the sinks of greenhouse gases.

Megawatt (MW): A measure of electricity use. One MW is equal to 1000 Kilowatts.

Natural gas: A fossil fuel that occurs as underground deposits of gases consisting of 50 to 90 percent methane (CH4) and small amounts of heavier gaseous hydrocarbon compounds like propane (C3H8) and butane (C4H10).

Net metering: A special metering and billing agreement between utilities and their customers, which facilitates the connection of small, renewable energy-generating systems to the power grid. When a net metering customer's renewable energy system is producing more power than is being consumed, the electric meter runs backward generating credits. When a customer uses more power than is being produced, the meter runs forward. Customers are charged only for the "net" power that they consume over a designated period or, if their renewable energy-generating systems make more electricity than is consumed, they may be credited or paid for the excess electricity contributed to the grid over that same period.

Nitrous Oxide (N2O): A powerful greenhouse gas. Major sources include soil cultivation—especially from use of commercial and organic fertilizers—fossil fuel combustion in vehicles, nitric acid production and the combustion of biomass.

NWN: Northwest Natural Gas

Occupant behavior: The behavior of building occupants such as residents and employees. Relevant occupant behaviors include manually operating thermostats and opening and closing windows.

ODOT: Oregon Department of Transportation

Oregon DEQ: Oregon Department of Environmental Quality

Oregon DOE: Oregon Department of Energy

Opportunity Siting: A City of Eugene planning effort with the stated goal of:

1) Creating a planning process for finding specific sites that can feasibly accommodate high-density residential development that is compatible with and has the support of nearby residents.

2) Facilitate development on those sites.

Pervious pavement: Pavement (asphalt or concrete) that is designed so that water can move through the pavement and infiltrate into the ground

Photovoltaic (PV): A solar power technology that converts sunlight into electricity.

Peak Oil: A term used to describe the transition from a time when the available supply of oil grows each year to a period in which the rate of oil production enters decline.

Product Stewardship: Calls on those in the product lifecycle—manufacturers, retailers, users, and disposers—to share responsibility for reducing the environmental impacts (definition from EPA website). Ideally, this would result in changes in design so that products create less waste, can be re-used or disassembled for easier recycling, or are otherwise redesigned.

Rain Gardens: Stormwater management structures designed to slow runoff, clean water, and increase soil infiltration.

Renewable Energy: Energy sources that are, within a short time frame relative to the Earth's natural cycles and sustainable. They include non-carbon technologies such as solar energy, hydropower, and carbon-neutral technologies such as biomass.

Resilience: Amount of change a system can undergo without altering state.

Setbacks: Land use code that requires buildings or facilities to be a certain distance back from a roadway or other defined object. A building must be "set back" xx feet from the street, for example.

SmartMeters: Occasionally referred to as AMI (Advanced Metering Infrastructure), SmartMeters are a meter that tracks building energy use for the building owner and utility. SmartMeters differ from conventional electricity meters by communicating directly with the utility, typically hour-by-hour, facilitating the use of electricity rates that change over the course of a day. By providing electricity consumers with price signals, utilities can reduce peak electricity demand, and important strategy to reduce greenhouse gas emissions. In addition to communicating with the utility, smart meters facilitate the use of in-home meters to provide building occupants with real-time electricity consumption data.

Source (greenhouse gas): Any process or activity that releases into the atmosphere a greenhouse gas, an aerosol or a precursor to a greenhouse gas.

Stormwater: Rain, snow, and other precipitation that falls onto buildings, streets, and the ground. Stormwater is managed within the stormwater system of downspouts, gutters, underground pipes, and streams.

TransPlan: The Eugene-Springfield Transportation System Plan that guides regional transportation system planning and development in the Eugene-Springfield metropolitan area.

Vehicle-miles traveled (VMT): A measurement to determine the amount of automobile traffic—can also be used to estimate greenhouse gas emissions.

Vulnerability: The degree to which a system is susceptible to, or unable to cope with, adverse effects of climate variability and extremes.

Wastewater: Used water that contains dissolved or suspended waste materials.

Weather: Atmospheric condition at any given time or place measured in terms of wind, temperature, humidity, atmospheric pressure, cloudiness, and precipitation. In most places, weather can change from hour to hour, day to day, and season to season. Climate is usually defined as the "average weather."

Zero net energy: A net zero energy building annually produces as much energy through on-site renewable systems as it uses.